# HANDOVER TIME DELAY AND CALL DROP PROBABILITY REDUCTIONS FOR WIMAX MOBILE BY USING MOBILITY PATTERN TABLE

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# A THESIS SUBMITTED TO THE GRADUATE SCHOOL OF APPLIED SCIENCES OF NEAR EAST UNIVERSITY

by

# LUQMAN QADER ADBULRAHMAN

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Prof. Dr. İlkay SALİHOĞLU

We certify this thesis is satisfactory for the award of the degree of Masters of Science in Computer Information Systems

Examining Committee in Charge:

Prof.Dr. Rahib Abiyev

Committee Chairman, Department of Computer Engineering, NEU

NEA

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Dorjon

Prof.Dr. Doğan İbrahim

Assoc.Prof.Dr. Nadire Çavuş

Assist.Prof.Dr. Samet Biricik

Assist.Prof.Dr. Kaan Uyar

Department of Computer Information Systems, NEU

Supervisor, Department of Computer Information Systems, NEU

Department of Electric and Electronic Engineering, LAU

Department of Computer Engineering, NEU

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name : LUQMAN QADER ADBULRAHMAN Signature : Date: To my parents and my wife...

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# ABSTRACT

Consequently, it is possible that these cell consumers will proceed in the service protection of serving basic areas in addition to change their own associating basic areas. The procedure of transferring in between unique basic areas will be termed the handover course of action. Throughout the handover course of action, the connection pertaining to the cell incurable and the serving basic base station stops. The quality of cell WiFi networks will be considerably suffering from handover latency in addition to supply decline percentage. On this work, we propose an easy handover program applying mobility behavior pertaining to WiMAX networks. Ability to move behavior usually are implemented to help determine yet another basic base station forwards important computer data packets gotten through the entire handover course of action for the targeted basic base station towards the reducing with the supply decline percentage. Extensive simulation studies usually are executed to judge the efficiency inside suggested program. The outcome proves the program can certainly reduce the handover latency as much as call drop probability.

Keywords: WiMAX, handover, signal strength, packet drop, base station

# ÖZET

Sonuç olarak, bu, hücre tüketicilerin temel alanlar ilişkilendirilmesi, kendi değiştirmeye ek olarak, temel hizmet alanları hizmet korumada devam edecek mümkündür. Özgü temel alanda arasında aktarma prosedürü hareket devri ders olarak anılacaktır. Hareket devri boyunca, tedavi edilemez ve hizmet veren hücrenin temel baz istasyonuna ait bağlantı durur. Hücre WiFi ağlarının kalitesi önemli ölçüde düşüş kısmını tedarik ek olarak teslim gecikme muzdarip olacaktır. Bu çalışmada, biz WiMAX ağlarının ilgili hareketlilik davranışı uygulanması kolay bir teslim programı öneriyoruz. Davranışı hareket yeteneği genellikle başka bir temel baz istasyonu belirlemek için uygulanan ve bir sonucu olarak gereksiz doğrulama feragat ve aynı zamanda hizmet veren temel baz istasyonu yönelik hedeflenen temel baz istasyonu için eylem tüm devri kurs boyunca kazanılmış önemli bilgisayar veri paketlerini iletir edilir besleme düşüş yüzdesi ile azaltır. Kapsamlı simülasyon çalışmaları genellikle önerilen programın içindeki etkinliğini yargılamak için yürütülür. Sonuç programı kesinlikle çağrı açılan olasılık kadar teslim gecikmeyi azaltabilir kanıtlıyor.

Anahtar Kelimeler: WiMAX, handover, sinyal gücü, paket drop, baz istasyonu

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# LIST OF ABBREVIATIONS

AACF:	Aggregate Access Correspondence Framework
ACSA:	Adaptive Channel Scanning Algorithm
ADV:	Acoustic Doppler Velocimetry
AHOP:	Actual Handover Phase
ASN:	Access Services Network
ATM:	Asynchronous Transfer Mode
BS:	Base Station
BW:	Bandwidth
BWA:	Broadband Wireless Access
BSS:	Business Support System
CBR:	Case-Based Reasoning
CDMA:	Code Division Multiple Access
CS:	Convergence Sub layer
DSL:	Digital Subscriber Line
DT:	Disruption Time
DPF:	data path function
ESS	Extended Service Set
FDD:	Focus-to-Detector Distance
FDMA:	Frequency Division Multiple Access
GPRS:	General Packet Radio Service
GSM:	Global System for Mobile Communications
HDSL:	High bit-rate Digital Subscriber Line
HSPA:	High Speed Packet Access
IEEE:	Institute of Electrical and Electronics Engineers
MACPDUS:	Media Access Control Protocol Data Unit System
MATLAB:	Matrix Laboratory
Mbps:	Megabyte per second
MOB_SCN_REQ:	Mobile Scanning Request
MDHO:	Macro Diversity Handover
MIHO:	Media Independent Handover
MDH:	Macro Diversity Handover

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MS:	Mobile Station
MSC:	Mobile Switching Center
MAC:	Media Access Control
MOB_HO_IND:	Mobile Handover Index
NLOS:	Non-Line-Of Sight
NMT:	Nordic Mobile Telephony
OFDM:	Orthogonal Frequency Division Multiplexing
OFDMA:	Orthogonal Frequency Division Multiple Access
PAN:	Personal Area Network
PDAS	Personal Digital Assistant System
PDU:	Protocol Data Unit
PSTN:	Public Switched Telephone Network
PAY:	Physical
QoS:	Quality of Service
RTT:	Round – trip Time
RAS:	Remote Access Service
RSSI:	Relative Signal Strength Indicator
<b>RNG-RES</b> :	Range Response
SAS:	System Administration Suppliers
SBS:	Select Bus Service
SMP:	Symmetric Multiprocessing Processor
SS:	Subscriber Stations
TCP:	Transmission Control Protocol
TAP:	Topology Acquisition Phase
TDD:	Telecommunications Device for the Deaf
TDMA:	Time Division Multiple Access
TDUA:	Time Division Unique Access
UMP:	User Mobility Profile
VOIP:	Voice over IP
VHO:	Vertical Handover
WiFi:	Wireless Fidelity
WiMAX:	Worldwide Interoperability for Microwave Access

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# **CHAPTER** 1

# INTRODUCTION

#### **1.1 Overview**

Recognizing that the inception on the telephone, transporter's frameworks have battled off competition by depending on the unreasonable capital financing needed to send a telephone framework.

#### **1.2 Introduction**

Practically in a vast segment of the world, the high cost of this build confined telephone profit with respect to the rich and in like manner the fledging bourgeoisie (Roger et al., 2005). It contains three critical parts: Get to, trading and transport. Each part has created over the hundred years notwithstanding incredible reputation for the Public Switched Telephone Network (PSTN). This framework focal expectation is at first to manage voice; later, data was exhibited. As data development inside the (PSTN) created, high farthest point customers thought it was inadequate, so these endorsers moved their data visitor's data specific frameworks. Using remote plans to evade wired controlling foundations is right now a sensibility for supporters of both voice and data organizations. The vital sort of temporary route is the use of Personal Digital Assistant System (PDAS) (Michelle et al., 2009).

A cell framework is a radio framework decided from positively a few radio cells (or possibly cells) every one served by technique for adjusted transmitter, known as a cell site or base station. These cells are for the most part used to cover unique extends to give radio extension over the broader zone than the division of one cell. Cell frameworks are innately unequal with different modified standard transceivers every one serving a telephone and in like manner a set of appropriated (generally, regardless of the way that not by and large, versatile) transceivers which give profits on the frameworks customers. Cell frameworks accommodate you a blended sack of central focuses over elective results for instance stretched cutoff, lessened power use, better extension et cetera (Zomaya, 2002).

The procurement of diverse cells demonstrates that, in the event the scattered transceivers are flexible and moving around, there is also to change from cell to cell. The segment for this differs in regards to the style of framework and the circumstances in the change. In this event there should be clear coordination between the base station and the flexible station. Worldwide Interoperability for Microwave Access (WiMAX), the Worldwide Interoperability for Microwave Access, is ordinarily data exchanges development centered at giving remote data over long divisions in a blended sack of courses, from point-to-show associations full versatile cell sort access. The get together depicts WiMAX as standards based development engaging the transport of last mile remote broadband access choice to connection and Digital Subscriber Line (DSL) moreover to High Speed Packet Access (HSPA) (Zhang et al., 2010).

WiMAX will conform data exchanges, as it is known all inclusive today. Since this development enables fewer preventions to segment, it is going to allow certified business part based competition in most of the of the true telecom organizations: compact and static voice, characteristic and data as demonstrated in Figure 1.1. Zomaya (2002), & Hameed et al. (2013)



Figure 1.1: PSTN and WiMAX (Jigneshkumar et al., 2014; Ray et al., 2007)

## 1.3 The Problem of the Study

In this thesis, the problems are faced while Mobile Station MS is moving from one place to another, so that in some cases a disconnection happening which yields of no coverage. The handover process is the time taken while communication between BS and MS is long enough to be disconnected.

# **1.4 Motivation**

In IEEE 802.16e standard, the complete handover happens in stages. Topology Acquisition Phase (NTAP) and also the Actual Handover Phase (AHOP) are the two primary stages. Throughout the (NTAP), the MSS performs examining and downlink synchronization exercises utilizing the promoted neighboring Base Station BS to select a new target BS to finish the handover action (Mushtaq et al., 2011).

Over the (AHOP), the MS discharges its association with the present SBS and performs synchronization, enlistment methodology utilizing the recently chose target BS to effectively finish the handover process. On the other hand, the full methodology is not free of ambiguities. Excessive checking and synchronization exercises may prompt unwanted handover defers and also wastages of important assets. Subsequently, restricting the degree of filtering exercises remains a testing errand in the Institute of Electrical and Electronics Engineers (IEEE) 802.16e frameworks (Nishith et al., 1998).

Over the examining system all uplink and downlink activity is stalled or cradled. For deferral delicate movement like (VOIP) and feature bit-stream, this kind of marvel is problematic. On cautious examination, it obliges a few hundred milliseconds of your time to think about the top hopeful BS for handover. There may be extent of change in the steps connected to both the stages from the BS determination strategy (Abduloulaziz et al., 2012).

#### 1.5 The Aim of the Study

The aim of this study is to write MATLAB program in the purpose of decreasing the handover time delay latency.

#### 1.6 Limitations of the Study

This study has the following limitations:

- 1- Survey problem areas in WiMAX and handover.
- 2- Focus on handover time taken.
- 3- Introduce the selection of the base station procedure considering the signal strength of the base station, and the handover according to the obtained list.
- 4- Calculate the call drop probability.
- 5- Calculate the packet drop.
- 6- Optimize the target BS decision according to the cell load.

#### 1.7 Overview of the Study

This thesis consists of six chapters and references:

**Chapter One:** This presents an overview of mobile communication, and literature review of the study.

**Chapter Two:** It presents an overview of different research on handover time delay latency reduction.

**Chapter Three:** It consists of two parts; the first presents an overview of different communication methods and introduces the main topic of WiMAX. Moreover, it presents an assessment the technology as well as metrics. It ends that has a broad introduction of the research area. The second part provides more detail about wireless handovers generally speaking. It discusses the kinds, stages and also the dependence on handover process.

**Chapter Four:** It discusses the handover procedure used for decreasing the handover time delay. Moreover, calculating the call drop probability and signal strength. Finally detecting the mobile caller's base station.

Chapter Five: This chapter describes the proposed scheme simulation results.

**Chapter Six:** It draws conclusion in the results achieved in the last chapter. What's more, it presents ideas that might profit the reader to undertake future research work in the region.

# 1.8 Summary

One of the challenge problems in the modern life is how minimize the handover time delay to obtain connectivity all the time, where researchers are trying to decrease the delay as much as possible for it importance even in human life.

# **CHAPTER 2**

# **RELATED RESEARCH**

#### **2.1 Overview**

Inside advantageous information trades, the term handover portrays the arrangement of exchanging a progressing phone or conceivably message period in one station joined with the specific focal structure totally to a trade especially when telephone getting off regions included in one phone and entering districts included in yet a trade cell the call could be utilized inside the going hand in hand with cell to keep away from phone end.

# 2.2 Related Research

Many researchers submitted several works in the subject of data security and in particular in the subject of steganography. The following are some of the current works in the field of the handover, where handover means exchanging a progressing call or information sessions one phone to a trade. Handovers happen as a consequence of the change of the adaptable client starting with one achieve then onto the accompanying range. Handovers are utilized to keep a progressing call to be separated:

Hyeyeon et al. (2008) demonstrated several handover longing numbers to decrease the handover latency by fast handover impelling. Moreover, broke down multipath transmission control protocol (MPTCP's) essentialness usage and handover execution in distinctive operational modes. Finally found that (MPTCP) engages smooth handovers offering sensible execution really for extraordinarily asking for procurements, for instance, voice over internet protocol (VOIP). To the degree that, proposed a low-flightiness received signal strength indicator (RSSI)-based computation and, then, an improved mixture RSSI/extraordinary put version. Where, the proposed RSSI-based vertical handover (VHO) figuring guarantees a constraining extraordinary put increase at the mechanical tester sensor (MTS). Where, the estimations showed a possibly extensive change using universal mobile telecommunications system (UMTS) showing data with relationship to Global system for mobile communications (GSM) as to handover range precision.

Vasos et al. (2009) softened down the idleness sections up Mobile Ipv6 handovers. What's more, gave genuine execution results for enormous parts of the handover handle through estimations in a veritable Mipv6 use on a remote proving ground centered on IEEE 802.11b.

Khan (2010) introduced a diagnostic work that improves the handover system. The creator talked about, gatekeeper channels, call induction and handover queuing focused around the covering scope ranges in the neighboring cells.

Nishtith et al. (1998) displayed diverse parts of handover to the extent that demonstrated handover usage, and the systems of handover and the assessment of handover and its execution.

Wong et al. (2008) explained quickly the high dangers of irregularity of tend to patients, and explored the vitality of clinical handover, to the extent that outlined the dissection accessible on distinguishing clinical handover process, gave a writing audit in regards to clinical handover and worldwide distributed meets expectations.

Pandey et al. (2012) clarified issues inside handover handle, and proposed system to enhance handover time inactivity.

Hsieh et al. (2003) handled two imperative difficulties: (1) enhancing handover execution in heterogeneous remote system, and (2) enhancing Transmission Control Protocol TCP execution in multi-jump remote system. In heterogeneous system, clients expect continuous administrations moving from a solitary system to another. Institute of Electrical and Electronics Engineers (IEEE) proposed media independent handover (MIH) to bring about a noticeable improvement handover execution.

Fu et al. (2005) at present, mobile IPv4 (MIP) will be the overwhelming instrument for versatility administration and should persevere into our future.

Mortaza et al. (2008) subsequently; neighboring cells may experience the ill effects of inordinate impedance that is produced by this MS. Besides, a hazard that connection quality declines all of a sudden change an extensive part, i.e. consequently, remove handover needs to be begun up.

Chao et al. (2008) explained quickly the high dangers of irregularity of nurture patients, and audited the essentialness of clinical handover, to the extent that abridged the dissection accessible on recognizing clinical handover process.

Purnendu et al. (2012) clarified issues inside handover handle, and proposed system to enhance handover time inertness.

Abduloulaziz et al. (2012) displayed another vertical handover choice to minimize the amount of disappointment and unnecessary handover in remote systems, their proposed calculation relies on upon the estimation time and figuring of limit time. To the extent that the handovers happening between MS and remote neighborhood wireless local area networks WLANs, where this strategy lessened the disappointments and the unnecessary handovers up to 80% and 70%.

Akki et al. (2009) explored the properties of Asynchronous Transfer Mode ATM and its profits, to the extent that clarified how it manages its characteristics, necessities, convention architectures and the worldwide exercises.

Hu et al. (2001) introduced a strategy for taking care of the directing issues by overlaying static sensible topology over the physical star grouping by producing close ideal most limited ways.

Mushtaq et al. (2011) distinguished the execution of the handover over worldwide interoperability for microwave access WiMAX-WiMAX, WiMAX-UMTS and WiMAX-Wifi regarding the chose measurements. To decrease the handover time idleness for portable Ipv6 (Mipv6).

An et al. (2006) proposed an instrument with extra primitives and parameters to the media free handover administrations characterized in the IEEE 802.21. Besides, to decrease the handover time dormancy in the Fmipv6. To comprehend the impacts of Duplicating Address Detection on the handover time delay.

Shin et al. (2004) created another system to diminish the Media Access Control (MAC) layer handover inertness on account of Voice over IP (VOIP) gets consistent. The proposed

model which is called Spmipv6 might be restricted to one Round – trip Time (RTT) between the versatile endorsers and the target access switch to diminishing the handover.

# 2.3 Summary

In this chapter, an overview of the related research is introduced, and different research on handover time delay latency reduction.

# CHAPTER 3

# THEORETICAL FRAMEWORK

# 3.1 Overview

Connection capacity is answerable for the trade of state data among the system components affected by handover.

#### 3.2 ASN-Anchored Mobility (Micro Mobility)

In the case of handover, when moving from one cell to another, this gives the handover circumstances in which the convenient moves its motivation of association beginning with one BS then onto the following inside the same access services network.

Where in the worldwide interoperability for microwave access standard which describes the three limits that give access service network moored compactness organization. The first one which is the data way work data path function which has the purpose of setting up the carrier for the required information needed for the handover business that supports the base station system and access service network entryways included in a handover. This merge up the foundation of the fitting communication shrinkage between the components for transmitting group, inauguration the low idleness, this deals with remarkable requirement, for instance, multicast and show. In the limits of handover who is responsible for the settling on the handover decisions and the representing of the related demonstrating routines. It underpins both convenient and framework began failure in the handover process back surgery syndrome and macro diversity handover. Like the data path function, this limit is similarly dispersed around various substances.

# 3.3 IEEE 802.16e Standard

Disregarding the way that a distinct decision which is given by the third layer to decide the process of the handover, where the (MAC) and physical (PHY) layers expect a basic part by transmitting and elicits the requirements by layer three to execute the request of the handover. Taking into consideration the deciding objective to be aware of its component which is the radio waves on the earth, the base station (BS) relegates time for each mobile station (MS) to screen and measure the radio waves to state of the neighboring BS. This

technique is called sifting, and the time distributed to each MSS is known as the looking at break. Every one analyzing interval is trailed by a between time of customary operation, insinuated as the interleaving break, where this depends on the reply of the BS to the MS. This checking technique starts when the BS issues a mobile scanning request (MOB\_SCN\_REQ) message that indicates out the MS the length of every one sifting break which depends on the BS capacity and the number of subscribers connected with it, the length of the interleaving interval and the measure of analyzing events the MS is obliged to execute (Zomaya et al., 2002; Wong et al., 2009).

# 3.3.1 Phases

Mandal (2008), the total handover framework in Mobile WiMAX incorporates the transmitting of the acknowledge (ACK) messages with special stages. Where these stages are classified as: Firstly, mastermind topology the responsible of securing which is carried out before a handover (HO) request coming from the MS. Then, the response from the BS which is considered as the honest to response time to handover process is considered as the technique which is including handover decision, launch, going and re-area procedure is performed as shown in Figure 3.1.





Figure 3.1: Handover MAC layer (Mandal, 2008)

# 3.3.1.1 Network Topology Acquisition Phase (NTAP)

In case which is considered as reject process that the investigating between times is unmistakably, when the BS answering time is passed, that methods no reaction from the BS, this reaction holds the begin time of the interim and the social occasion time for each of the embraced neighboring BSS as cycle, i.e., sending the handover ask for and holding up answer, then the holding up time is passing without answer from the BS. The mobile station found the opportunity to send to the neighbor BS. Mimicking the reaction message allowing the offer, a mobile subscriber station may examine for one or more BS for the length of time of the time interim, and keeping in its memory the reaction of the target base station system (BSS). Abutting the proposed BS, the MS can associate down whatever available BS all around the filtering between times.

The differentiating is carried out inside particular periods (lodgings) consigned by the select base station (SBS) on case of the mobile subscriber station. All around the taking a gander at method, information transmission is stopped and all approaching information to the MSS is cushioned by the SBS. The BSs developing reaction (RNG-RSP) further holds an association level longing, which shows the open associations and the expectable level of quality of service (QoS) (Ray et al., 2007).



Figure 3.2: MSS initiated HO as seen by MSS (Xie et al., 2005)





Figures 3.2, and 3.3, the MSS and the SBS, mutually with the assistance of the spine system accumulate data about the underlying system topology. Utilizing mobile neighboring automatic drain value (MOB\_NBR-ADV) messages, the SBS occasionally shows the system topology data or channel data of the accessible neighboring BSS for a potential handover. The message holds the evaluated output span and, for checking different times, the interleaving interim and the amount of cycles. Furthermore, the MSS shows the expected filtering of one or a few neighboring (BSS). Like this, the (BS) can arrange over the spine a unicast running chance rather than dispute based going for the planned neighboring BSS. The unicast chance will be allowed to the MSS at a particular meeting time.

#### 3.3.1.2 Actual Handover Phase

At the point when MSS relocates from the SBS to the target base station for the handover procedure is executed as takes after.

- Cell Reselection: MSS behaviors cell reselection with data got from system topology securing stage. Since it eludes the same operation with system topology securing, this stage might be shortened (Cedex, 1998).
- Handover Decision and Initiation: The handover procedure starts with the choice for the mobile station system (MSS) to move its associations from the select bus service (SBS) to another target (BS). This choice could be taken by the MSS, SBS, or some other outside substance in the WiMAX system (reliant on the execution), that is the handover technique begins with the decision for the mobile station system (MSS) to move its affiliations from the SBS to an alternate target BS (Ekiz et al., 2006).
- Synchronization to the Target BS: At the point when the target base station is determined, the mobile station system synchronizes with its downlink transmission, beginning with setting up the DL packaging presentation of the target base station. The DL packaging prelude gives the MSS time and repeat synchronization with the target BS. This stage may be abridged if the target BS was educated about the approaching handover framework and had circulated unicast going stakes for the MSS (Ray et al., 2007).

- **Ranging with Target BS :** The MSS utilizes the running channel to perform the starting going procedure to synchronize its UL transmission with the BS and get data about beginning timing development and force level. This beginning extending procedure is like the one utilized throughout system passage (Yan, 2010).
- **Terminating Serving BS:** In the wake of creating association with the target BS, the MSS may choose to end its association with the SBS, sending a mobile handover index (MOB\_HO\_IND) message to the base station. On receipt of this message, the select bus service (SBS) begins the asset hold clock and keeps all the (MAC) state machines and cushioned media access control protocol data unit system connected with the MSS until the expiry of this clock. Once the clock lapses, the BS tosses all the (MAC) state machines (MAC), (PDUS) and the handover procedure is thought to be finished. A call drop throughout a handover procedure is characterized as the circumstances when a MSS has ceased correspondence with its select bus service (SBS) in either downlink (DL) or uplink (UL) before typical handover grouping has been finished. At the point when the MSS recognizes a call drop, it endeavors a system reentry method with the target BS to restore its association with the system (Pollak, 2008).

#### 3.3.2 Scanning

The operation of a mobile station system could be expected as takes after. In spite of the fact that, it could be a usage issue to choose when a MSS begins to sweep neighbor (BSS) and performs handover to different BSS. As indicated Figure 3.4.



Figure 3.4: Scanning example (Parron et al., 2005)

Figure 3.4 shows the MSS should range neighbor BSS regularly in handover region. The MSS or the SBS may request intermittent separating if the MSS is recognized in the handover area.

- 1. An incredible MSS can unquestionably measure this sign electrical power in the SBS without the checking appeal correspondence.
- 2. A MSS begins off to help observe neighbor BSS, when the indicator quality in the SBS is leaner when contrasted with a given persistence as to Tscan minute.
- 3. The genuine handover strategy is going to be begun off, if the transmission vitality of different BS might be higher than of which of SBS as to the period.

## 3.3.3 Ranging

Since every MSS has an interesting separation from the BS, it is basic in the uplink to synchronize the images and level the accepted force levels around the different animated MSS. This methodology is called going. At the point when started, extending requires the BS to gauge the channel quality and the time of landing for the MSS being referred to. Downlink synchronization is not required. In WiMAX as shown in Figure 3.5, four sorts of

running methodology exist: starting extending, intermittent going, data transfer capacity solicitation and handover running (Kawk et al., 2008).



Figure 3.5: Hard handover (Lin, 2011)

Figure 3.5 shows the occasion that the expanding philosophy is viable, the BS sends a range response (RNG-RES) message that teaches the MSS on the correct timing-parity change, repeat balance update and energy setting. In case unsuccessful, the MSS additions its vitality level and sends an alternate going message, going before this technique until triumph.

## 3.4 Handover

Hard handover is essentially utilized inside Frequency Division Multiple Access (FDMA) and Time Division Unique Access (TDUA), where different rehash accomplishes is utilized as a bit of bordering controls to minimize channel impedance.

In a hard handover, the affiliation with the past BS is done before or as the client is exchanged to the new cell's base station (BS); the mobile station system is interfaced to close to one BS at any given time. Hard handover is fundamentally utilized inside frequency division multiple access (FDMA) and time division multiple access (TDMA), where varying rehash attains is utilized as a bit of bordering controls to minimize channel impedance. So when the mobile station system (MSS) moves starting with one BS then onto the accompanying BS, it gets impossible for it to contrast and both base station system (BSS) since remarkable frequencies are utilized as spoken to in Figure 3.6 (Zeng et al., 2013).



Figure 3.6: Handover between two cells (Vempati et al., 2011)

Figure 3.6 underneath outlines explains the hard handover process between the transmitter and the receiver in the cells. Cell/domain handover alludes to handover happening when a MSS moves from the region of one BS to an alternate BS inside the same driver or spine. Bury cell/domain handover alludes to a comparable action where the BSS are from distinctive specialists or spines (alluded to as (B) in Figure 3.6). Cover cell/space handover insinuates a tantamount activity where the BSS are from different experts or spines (insinuated as (B) in Figure 3.6). The hard handover occasion is to be completely frank short and generally is not recognizable by the client. Regardless, undoubtedly an all the more stunning slant starts from the direct truth that meanwhile controls in differing cells are meddled or smear in the meantime. A trade cost to pay for delicate handovers is the use of several directs in the schema to backing basically a solitary call. This reduces the measure of staying free channels and fittingly lessens the purpose of imprisonment of the system (Lin, 2011).

#### 3.4.1 Stages of Handover

## 3.4.1.1 Handover Initiation

The execution appraisal of a hard handover is subordinate upon distinctive begin criteria. The mean indicator nature of BS1 reductions as the MSS moves a long way from it as shown in Figure 3.7. It is also used to exhibit diverse strategies delineated in the going hand in hand with subsection.



Figure 3.7: Signal strength and hysteresis between two BSs (Shet, 2010)

- Relative Signal Strength: The choice is dependent upon a mean estimation of the accepted indicator. This system is seen to incite an excess of unnecessary handovers, actually when the indicator of the current BS is still at a satisfactory level (Roy, 2009).
- Relative Signal Strength with Threshold: Also, these results in extra square to cochannel clients so that the suitable unmoving MS could be transmitted to the closest BS as briefly time of time. Henceforth, this game plan may make cover cell expansion runs as the correspondence between the closest base station with one another. (Roy, 2009).
- Relative Signal Strength with Hysteresis: Thus, the handover might happen at point C. This strategy keeps the so called Ping-Pong impact, the rehashed handover between two BSS created by fast vacillations in the gained indicator qualities from both BSS (Mousa, 2011).

## 3.4.1.2 Handover Decision

From the decision technique point of view, one can find no short of what three different sorts of handover decisions to decrease the handover time delay as much as possible, so to get no disconnection or loss of the signal (Yan, 2010).

- Network-Controlled Handover: As a rule, the handover system counting information transmission, channel exchanging, and skeleton exchanging takes 100–200 m (Oliva et al., 2007).
- **Mobile-Assisted Handover :** This essentially intimates segment and landing of radio channels and handover organization (Madan et al., 2008).

# 3.5 Summary

It picks a couple of neighboring base stations and makes reports. All these activities eat up a great deal of time. Such a structure was picked remembering the finished objective to ordinary the conclusions and show the consistency of the figuring without using stochastic proliferations. Since CBR action could be used to duplicate a generous blended sack of certified framework procurements, it has been used as a piece of all entertainments in this suggestion. In this chapter, the definition of handover is as the strategy of trade of integration beginning with one base station then onto the other. Handover begins and ends with decisions that are the two periods of handover. In this chapter, three different sorts of handover decisions are discussed.
## **CHAPTER 4**

# **PROPOSED MODEL**

## 4.1 Overview

The plan addresses the majority of the subordinates in the investigation went along far are shown in Figures 4.1, and 4.2.



Figure 4.1: Proposed optimization along with hybrid BS selection procedure



Figure 4.2: Hybrid base station selection procedure

Figures 4.1, and 4.2 show that it requires a two pronged approach comprising of any base station selection procedure and optimization in the steps prior to the mobile station finally terminates on the SBS.

#### 4.2 Scheme

Looking at the development which is along these few lines that joining the target BS as incidentally rather than the mobile station system separating each of the pushed base station. This may give a diminishing which yields that the compass not with remaining on an extraordinarily key level minimized extending and cooperation works out so that the critical deferral time in reacting to the base station. The aching with the neighboring base station ideal for a specific handover change is poverty stricken upon these key parameters:

- I. Direction of the mobile station system movement.
- II. Average time interval in between each hop of the mobile station.
- III. Current load of a neighboring base station.
- IV. Position and coverage of the neighboring base station with regards to the current select base station.

Selecting the right base station for the scanning activity is usually a joint decision on the select base station according to its signal strength and the response time taken, as well as the concerned mobile station system while using select base station utilizing the most decision-making responsibilities belong to the base station in order not to get disconnected with the visitor mobile station even for a while. This importance in connection belongs to the fast in respond of the base station and its capacity.

## 4.3 Performance and Inference

By topic of performance and the interference which depends on the BSs separation distances, that proportional to the overlap region and the antenna used in each BS, for this none of the appropriated effects were broad enough to unmistakably evaluate precisely, which depends on the different stages that are going to be taken as the maximum offer of the aggregate handover time. Thusly basic exertion was obliged to this study, reproduce and break down the execution of the sorted out WiMAX handover. This proliferation was completed by MATLAB programming.

#### **4.3.1 Simulation Environment**

In this study, the simulations parameters are taken natural as 7 base stations and 15 subscribers in a small area of 5Km by 5Km area in a circumstance was reenacted in MATLAB programming. The sifting time and the total handover operation time were focused on with the support of IEEE 802.16e OFDMA model realized using MATLAB. The pace of SSs was contrasted reliably from 0-100 Kmph as a maximum speed, which suggests that both traveler and vehicular advancements of SSs were perceived. The standard parameters are classified in Table 4.1 below.

Parameter	Value
No. of Base Stations	15
No. of Mobile Stations	150
Simulation Time	1000 seconds
Area Range	5Km x 5Km
Maximal Velocity	100 m/s
Overlap Range	200 m
Radio Range	1 Km
Frequency	2.4 GHz

 Table 4.1: Standard simulation parameters (Zhang et al., 2010)

#### 4.3.2 Analysis

Regardless, in 802.16e such evidently injured looking at is to a degree stayed far from with the SBS once in a while saving and radio information about the neighboring BSS. Similarly, the standard does not clearly indicate the measure of hindrances, which respects the increment in the handover postponement time.

Endeavoring activities take in the wake of breaking down. Moreover, the standard does not clearly show the measure of disadvantages. In like way, since all around the checking between times, diverse sorts of transmissions between the MSS and the SBS are carried out; it prompts enormous throughput corruption and particularly hampers the QoS of deferral sensitive foreseeable traffics.

## 4.4 Proposed Model Explanation

The SS steers the possible BSS in a need based case, while using pass on proficiency case table and moreover the information of possible BSS furnished with the current BS. In total, the proposed method can minimize the handover grievous deficiency of change with low package hardship degree and subsequently an essentially handover. With this zone, it is showing the urging handover blueprint using versatility diagrams. For the base stations, adaptability specimen tables are well known and utilized with help the smaller stations suspect the checked base stations. The data recorded from the adaptability case table is overhauled all around every suitable handover skeleton depending upon the handover

decisions got from additionally unassuming station. The reenactment study shows that our strategy can on sensationally key level decrease handover slowness.

### 4.5 Detailed Design

Within the scheme below, the SS uses the mobility pattern table to predict the mark BS. The mobility pattern table, where the pairs with the previous BS as well as the target BS are recorded, is maintained through the serving BS mounted in the center of the cell. Among the mobility pattern table is shown in Tables 4.2, and 4.3 is produced by the first scan to all base stations by assuming all mobile stations are located in the first cell as shown in Figure 4.3.



## Figure 4.3: Cell distribution

Base				Av.
Station		Av. Signal		Load
ID	Avg. Handover Time	Strength	Av. Load	Ratio
2	195.90312500	-50.78717594	43.6250	0.218125
3	195.97125000	-50.78717594	43.6250	0.218125
4	197.01312500	-50.78717594	43.6250	0.218125
5	196.96812500	-50.78717594	43.6250	0.218125
6	196.67687500	-50.78717594	43.6250	0.218125
7	196.47000000	-50.78717594	43.6250	0.218125
8	155.14416667	-50.8569515	40.5000	0.2025
9	155.45166667	-50.8569515	40.5000	0.2025
10	155.61083333	-50.8569515	40.5000	0.2025
11	155.02583333	-50.8569515	40.5000	0.2025
12	155.04666667	-50.8569515	40.5000	0.2025
13	155.50916667	-50.8569515	40.5000	0.2025
14	155.61500000	-50.8569515	40.5000	0.2025
15	155.19416667	-50.8569515	40.5000	0.2025

Table 4.2: Obtained table after first scan

 Table 4.3: Mobility pattern table

Previous Base Station	Target Base Station	Av. Signal Strength	Av. Load	Av. Load Ratio
8	9	-50.86	40.50	0.2025
8	10	-50.86	40.50	0.2025
8	11	-50.86	40.50	0.2025
8	12	-50.86	40.50	0.2025
8	13	-50.86	40.50	0.2025
8	14	-50.86	40.50	0.2025
8	15	-50.86	40.50	0.2025
8	2	-50.79	43.625	0.2181
8	3	-50.79	43.625	0.2181
8	4	-50.79	43.625	0.2181
8	5	-50.79	43.625	0.2181
8	6	-50.79	43.625	0.2181
8	7	-50.79	43.625	0.2181

The handover times relate to how now and again the adaptability arrangement zone shows up inside a certain period. In the occasion the pass on breaking point outline table is dealt with, the table is void, and table ranges are joined and updated in the handover process. The serving BS then requests if the pair exists in the flexibility sample table. In the event that the pair exists, the handover note worth is reached out by 1; if all else fails, a substitute table section holding the pair of the past base station ID moreover the target base station ID is cemented and in addition the handover respect for the new way is planned to a solitary.

For every one table portion in the adaptability representation table, the serving BS considers the system for past Bsprev and Bsprev; if the nature of previous base station in the table path is the same with the ID of past base station exemplified in the thickness request message, the target BS in such a table distribution is considered as the contender BS, and the concentrate on base station ID is solidified with the chipper BSS rundown. In all probability, examining each of the BSS inside the separating once-over takes truly a while, and that is not proceeded in stillness sensitive enduring offers. Inside this response message, the BS encapsulates the exuberant BSS rundown from the lessening ask for on the handover times as demonstrated by the flexibility illustration table.

Next, the adaptable station assignments while using the serving BS and starts the looking at composition using the asked for BSS rundown. In any case, the obliging station tries to synchronize with the entire BSS that has the most vital likelihood (centrality this kind of handover decision appeared with most astonishing repeat) and bits of taking in at change physical brilliant information in the certain BS as showed by its most shocking marker quality as indicated in Figure 4.4



Figure 4.4: Decision made according to signal strength

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Figure 4.4 shows the occasion the channel condition fits the need from the adaptable station, the width framework is completed without extra neighbor BS must be analyzed. If all else fails, the flexible station ought to yield the running as a laced unit with BS until the perfect BS is found.

The last BS's ID regardless of the concentrate on BS's ID will furthermore be embodied in that message to keep up the adaptability outline table. Precisely when the serving BS perceives the mobile handover interrupt message, it upgrades its portability case table focused around the past base station ID and the concentrate on base station ID. Then again, it is in like way possible that this transportability case table isn't right or holds bafflement. Notwithstanding, the gage is misguided regardless of the flexible station would attempt to yield a mixed up BS. Since the achieve will miss the mark under such a condition, the adaptable station needs to complete the imperative yield technique gather the adaptability sample table concentrated on the standard broadening results.

Base Station ID	Avg. Handover Time	Av. Signal Strength	Av. Load	Av. Load Ratio
1	110.5314103	-51.45694641	48.97435897	0.108831911
2	110.5397436	-51.45694641	48.97435897	0.108831911
3	110.9121795	-51.45694641	48.97435897	0.108831911
4	111.1455128	-51.45694641	48.97435897	0.108831911
5	111.6628205	-51.45694641	48.97435897	0.108831911
6	112.2275641	-51.45694641	48.97435897	0.108831911
7	112.0929487	-51.45694641	48.97435897	0.108831911
9	111.4365385	-51.45694641	48.97435897	0.108831911
10	111.8356688	-51.3709758	48.98089172	0.108846428
11	111.0141935	-51.54402632	48.96774194	0.108817206
12	111.0474359	-51.45694641	48.97435897	0.108831911
13	109.9897436	-51.45694641	48.97435897	0.108831911
14	110.4237179	-51.45694641	48.97435897	0.108831911
15	110.5685897	-51.45694641	48.97435897	0.108831911

 Table 4.4: Obtained table after second scan

Previous Base Station	Target Base Station	Av. Handover	Av. Signal Strength	Av. Load Ratio
8	7	0.112092948717949	-51.456946410256400	0.000004897435897
8	6	0.112227564102564	-51.456946410256400	0.000004897435897
8	10	0.111835668789809	-51.370975796178400	0.000004898089172
8	5	0.111662820512821	-51.456946410256400	0.000004897435897
8	4	0.111145512820513	-51.456946410256400	0.000004897435897
8	12	0.111047435897436	-51.456946410256400	0.000004897435897
8	11	0.111014193548387	-51.544026322580700	0.000004896774194
8	3	0.110912179487180	-51.456946410256400	0.000004897435897
8	2	0.110539743589744	-51.456946410256400	0.000004897435897
8	1	0.110531410256410	-51.456946410256400	0.000004897435897
8	15	0.110568589743590	-51.456946410256400	0.000004897435897
8	14	0.110423717948718	-51.456946410256400	0.000004897435897
8	13	0.109989743589744	-51.456946410256400	0.000004897435897

 Table 4.5: Mobility pattern table

In like way, when the current BS gets the mobile handover interrupt message, the serving BS will actuate a huge allotment of the downlink packs to the new BS of the adaptable station, in light of the route that in the wake of sending the mobile handover interrupt message, the accommodating station will withdraw from the serving BS and all correspondences between the versatile station and the serving BS be interfered. The target BS holds the downlink gatherings of the versatile station clearly, and when the acquaintanceship between the accommodating station and the target BS is made, the target BS progresses the set away packages to the adaptable station. After the target BS is dead masterminded, the outline layer handover could be authorized to minimize the total handover absence of movement as demonstrated in Figure 4.5 below.



Figure 4.5: Mobile subscriber movements

Where Figure 4.5 explains the movement of the MS as initially in cell number two which is the second step after the initial process, and in accordance to the obtained Table 4.5, where the consideration of the signal strength to move to BS number three.

### 4.6 Block Diagram

From the get go handover framework is fair to goodness basically under some pointed out stipulations received signal strength criteria is seen as in light of the way that as known in adaptable WiMAX systems. In versatile WiMAX skeletons, the pointer nature of the current serving BS will decrease when the adaptable station moves far from the serving BS. The physical channel data may be utilized to select the target BS rundown in the dividing rationality.



Figure 4.6: Simple figures to illustrate the proposed scheme

The physical channel data may be utilized to select the target BS rundown in the taking a gander at method. In the extending outlines message, the versatile station joins together the euphoric BSS rundown. Essentially the neighboring base station system which meet the vital of the versatile station are joined in the compass development message. For each one table portal in the flexibility outline table, the serving base station considers the strategy for past base station and Bsprev ; if the procedure for past BS in the table area is the same with the ID of previous base station epitomized in the degree offer message, the target base station in such a table bit is seen as the certain base station, and the focus on base station ID is added to the seeker BSS rundown. Unmistakably, taking a gander at a considerable allocation of the BSS in the dividing once-over takes unequivocally a while, which is not gone before in idleness unstable incessant acquirements. On the off chance that the pair included by the past BS and the open BS has vast times as demonstrated by the solace outline table, the accessible BS has higher sign quality, additionally has open zone without any aggravations to be co-united all around the handover. In this reaction message, the BS encapsulates the seeker base station system rundown in the diminishing sales of the handover times as per the minimization layout table. Next, the more humble station withdraws with the serving BS and begins the investigating illustration as demonstrated by the requested BSS rundown. At the starting, the adaptable station tries to synchronize with the BS that has the most fundamental likelihood (which means such a handover choice was made with most crucial rehash) and gets more divided physical channel data of the inquirer BS. On the off chance that the channel condition fits the essentials of the flexible station, the yield construction is done and no extra neighbor BS needed to be assessed. The flowchart of our getting some information about speculation is appeared as indicated in Figure 4.7.



Figure 4.7: Flowchart of proposed model

Obviously, it is possible that the settlement sample table is stirred up or holds a bobble. For this condition, the yearning isn't right and the adaptable station may endeavor to yield a mixed up BS. Since the yield will miss the mark under such a condition, the lessened station need to complete the standard degree change over and redesign the diminishing representation table concentrated on the standard yield results. After a certain period, the right flexibility case could be recuperated according to the versatility graph table. Which implies that, the unmistakably, it is conceivable that the settlement specimen table is blended up or holds a bobble. For this condition, the longing isn't correct and the versatile station may try to yield a stirred up BS. Since the yield will come up short under such a condition, the decreased station need to finish the standard degree change over and overhaul the decreasing representation table focused on the standard yield results. After a certain period, the right adaptability case could be recovered as indicated by the flexibility chart table.

### 4.7 Summary

In this chapter, the proposed model is explained in details, where the simulation results are going to be explained in the next chapter.

## CHAPTER 5

## SIMULATION RESULTS

#### **5.1 Overview**

Using the analysis results towards the end on the last chapter, it may be deduced that:

- 1. Many of the procedures in the typical handover that takes reasonable length of time ought to be reduced.
- 2. If your target BS for handover is decided before scanning, a few of these stages could need less time.
- 3. The general iterations in the standard procedure are usually reduced.

Optimizing the number of steps through removing some steps and combining a few other steps might be investigated.

#### **5.2 Simulation Setup**

The simulation in this thesis involves examining how a hundred and fifteen MS can move across a fifteen BSs at various speed in random process using the parameters shown in Table 5.1.

The parameters given in table 5.1 were could compare our result with thesis becouse Zhang et at. (2010) used same with reference.

Parameter	Value
No. of Base Stations	15
No. of Mobile Stations	150
Simulation Time	1000 seconds
Area Range	5Km x 5Km
Maximal Velocity	15 m/s
Overlap Range	200 m
Radio Range	1 Km
Frequency	2.4 GHz

#### Table 5.1: Simulation parameters

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The simulation was examined using ready software MATLAB. The movements started from cell number one as a reference step upward to the 6 six BSs randomly according to the following steps:

 First scan process was done to all BSs to produce the initial mobility table as shown in Table 5.2, where the scan is done almost 1924 times to produce the first list, this number of scan is done because the mobile will be stable when more number of scans are done. This scan list is saved in excel file under name Final List, sheet1. Where, sheet1 is attached in appendix A.

Base Station	Avg. Handover	Av. Signal		Av. Load
ID	Time	Strength	Av. Load	Ratio
2	195.90312500	-50.78717594	43.6250	0.218125
3	195.97125000	-50.78717594	43.6250	0.218125
4	197.01312500	-50.78717594	43.6250	0.218125
5	196.96812500	-50.78717594	43.6250	0.218125
6	196.67687500	-50.78717594	43.6250	0.218125
7	196.47000000	-50.78717594	43.6250	0.218125
8	155.14416667	-50.8569515	40.5000	0.2025
9	155.45166667	-50.8569515	40.5000	0.2025
10	155.61083333	-50.8569515	40.5000	0.2025
11	155.02583333	-50.8569515	40.5000	0.2025
12	155.04666667	-50.8569515	40.5000	0.2025
13	155.50916667	-50.8569515	40.5000	0.2025
14	155.61500000	-50.8569515	40.5000	0.2025
15	155.19416667	-50.8569515	40.5000	0.2025

Table 5.2: Produced mobility pattern table

Table 5.2 explains the scan process and how it was done to the six BSs except the original BS, so that the MS cannot do scan for the BS located in. Then, according to signal strength, the first movement is done to BS number two so that its signal strength is higher than the original location.

2. Taking first scan into consideration to generate the first mobility list and according to signal strength to determine the target BS, as shown in Table 5.3.

Previous Base Station	Target Base Station	Av. Signal Strength	Av. Load	Av. Load Ratio
8	9	-50.86	40.50	0.2025
8	10	-50.86	40.50	0.2025
8	11	-50.86	40.50	0.2025
8	12	-50.86	40.50	0.2025
8	13	-50.86	40.50	0.2025
8	14	-50.86	40.50	0.2025
8	15	-50.86	40.50	0.2025
8	2	-50.79	43.625	0.2181
8	3	-50.79	43.625	0.2181
8	4	-50.79	43.625	0.2181
8	5	-50.79	43.625	0.2181
8	6	-50.79	43.625	0.2181
8	7	-50.79	43.625	0.2181

 Table 5.3: Mobility pattern list (according to signal strength)

3. Decision is made to move to BS number two according to the list in Table 5.3, and the cell diagram is shown in Figure 5.1(a, and b) below.



- 4. Load ratio is taken 0.0 till 0.5, where the BS capacity is taken 200 MSs, where the load ratio for each step, a scan is done to collect the data given in sheet1.
- 5. From Table 5.3, Figure 5.2 is plotted as shown below to show the first handover time delay, maximum 197 ms.



Figure 5.2: Handover latency vs. load ratio

6. Second scan process was done to all BSs to produce the initial mobility table as shown in Table 5.4, where the scan is done almost 2188 times to produce the second list, this number of scan is done again for the same reason in the first scan which is the mobile will be more stable when done more number of scans. This scan list is saved in excel file under name Final List, sheet3. Where, sheet3 is attached in appendix A.

Base	Avg.			
Station	Handover	Av. Signal		Av. Load
ID	Time	Strength	Av. Load	Ratio
1	110.5314103	-51.45694641	48.97435897	0.108831911
2	110.5397436	-51.45694641	48.97435897	0.108831911
3	110.9121795	-51.45694641	48.97435897	0.108831911
4	111.1455128	-51.45694641	48.97435897	0.108831911
5	111.6628205	-51.45694641	48.97435897	0.108831911
6	112.2275641	-51.45694641	48.97435897	0.108831911
7	112.0929487	-51.45694641	48.97435897	0.108831911
9	111.4365385	-51.45694641	48.97435897	0.108831911
10	111.8356688	-51.3709758	48.98089172	0.108846428
11	111.0141935	-51.54402632	48.96774194	0.108817206
12	111.0474359	-51.45694641	48.97435897	0.108831911
13	109.9897436	-51.45694641	48.97435897	0.108831911
14	110.4237179	-51.45694641	48.97435897	0.108831911
15	110.5685897	-51.45694641	48.97435897	0.108831911

Table 5.4: Produced mobility pattern table

7. Decision is made to move to BS number two according to the list in Table 5.4, and the cell diagram is shown in Figure 5.3 (a, and b) below.



Figure 5.3: Cell diagram consists of fifteen cells

- 8. Again, load ratio is taken 0.0 till 0.5, where the BS capacity is taken 45 MSs, where the load ratio for each step, a scan is done to collect the data given in sheet3.
- 9. From Table 5.4, Figure 5.4 is plotted as shown below to show the second handover time delay, maximum 111 ms.



Figure 5.4: Handover latency Vs. cell load ratio (Second scan)

Comparison between the first and second handovers is done and shown in Figure 5.5 below, showing the big difference between the two scans.



Figure 5.5: Comparison between first and second handover

10. Call drop probability is tabulated with respect to the cell load ratio, and plotted as shown in Figure 5.6 below.



Figure 5.6: Call drop probability vs. cell load ratio

Figure 5.6, describes the call drop probability with respect to the cell load ratio, so that when the BS is busier by its cell load ratio, then its call drop probability is increases.

11. The average load vs. average signal strength, and average handover time vs. average signal strength are taken into consideration and plotted in Figure 5.7 below.



Figure 5.7: Avg. load vs. signal strength, and average handover time vs. average signal strength

## **5.3 Simulation Results**

Simulation results are generated using a number of program executions, where the objective of the proposed model is to understand the effective of the proposed algorithm to reduce the handover time delay. The explanations of these results are:

## 5.3.1 Execution 1

In the first execution which has some steps, the proposed model got the following results, as shown in Figure 5.8, the coordinates of the mobile station (MS) with respect to the nearest base stations (BSs), where these coordinates are tabulated in Table 5.5 below.



Figure 5.8: MS & BSs coordinates

Signal Strengths	Distances	Handover Time
-57.8400	15331.9992	110.5314
-57.0200	7741.4777	110.5397
-55.9100	34715.2311	110.9122
-54.8400	45247.3229	111.1455
-53.4200	31251.7785	111.6628
-51.9300	44634.1075	112.2276
-49.9100	10900.5718	112.0929
-47.5000	38149.2551	111.4365
-43.8900	18334.1673	111.8357
-37.9600	21947.4815	111.0142
-49.9100	8804.9854	111.0474
-47.5000	40939.2001	109.9897
-43.8900	31883.8482	110.4237
-37.9600	37215.4334	110.5686

Table 5.5: Table of the Extractions one

The new location of the MS is shown in Figure 5.9 below.



Figure 5.9: Mobile station's new location

The mobile stations (MSs) are moved to the target base station (BS), as shown in Figure 5.10 below.



Figure 5.10: Mobile stations (MSs) movements to the target base station (BS)

## 5.3.2 Execution 2

In the second execution same procedure as the first execution, the proposed model got the following results, as shown in Figure 5.11, the coordinates of the mobile station (MS) with respect to the nearest base stations (BSs), where these coordinates are tabulated in Table 5.6 below.

Signal Strengths	Distances	Handover Time
-57.8400	24219.9664	110.5314
-57.0200	17338.4927	110.5397
-55.9100	32199.4792	110.9122
-54.8400	12620.4589	111.1455
-53.4200	29666.7419	111.6628
-51.9300	30935.3335	112.2276
-49.9100	30618.6108	112.0929
-47.5000	23572.6269	111.4365
-43.8900	2159.2664	111.8357
-37.9600	26794.9594	111.0142
-49.9100	21621.2342	111.0474
-47.5000	6303.2776	109.9897
-43.8900	23896.4846	110.4237
-37.9600	23572.6269	110.5686

<b>Table 5.6:</b> Table of the Extractions
--

The new location of the MS is shown in Figure 5.11 below.

KA	1110	
	Mobile Station is in	
ſ	9	

Figure 5.11: Mobile station's new location

The mobile stations (MSs) are moved to the target base station (BS), as shown in Figure 5.12 below.



Figure 5.12: Mobile stations (MSs) movements to the target base station (BS)



Figure 5.13: Mobile stations (MSs) movements to the target base station (BS)

### 5.4 General Results

According to the results obtained from the proposed model, and comparing with the results obtained in Zhang et al. (2010), and by using the same parameters. As those in Table 5.7 It is found that the handover time delay reduced to 111 ms in the proposed model, while in Zhang et al. (2010) is found to be 197 ms. which gives a note that the proposed model is higher quality and more effective.

Table 5	5.7: 0	General	Results
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No.	Author	No. BS	No. MS	Simu. T. (Sec)	Area Range (Km)	Maximal Velocity (m/s)	Overlap R. (m)	Radio R. (Km)	Freq. (GHz)	HO Time (ms)
1.	Zhenxia Zhang, et., al	15	150	1000	5*5	15	200	1	2.4	197
2,	Proposed System	15	150	1000	5*5	15	200	1	2.4	111

### 5.5 Summary

The result obtained from the simulation hare been summarized in this chapter. The HO time has been reduced considerable.

## CHAPTER 6

# **CONCLUSION and RECOMMENDATIONS**

#### 6.1 Conclusion

To develop a WMN, WiMAX innovation is mainstream to give remote associations in light of the fact that WiMAX has bigger radio extend as opposed to WiFi. Then again, radio stations extent stays to be restricted and handover methodologies are required to keep up remote associations. Hence, giving quick handovers in WiMAX organizes under the precise quick condition has formed into testing assignment. On this postulation, a productive MAC layer handover plan utilizing versatility examples is introduced to decrease the handover dormancy. Portability examples are embraced to help the SS anticipate the target BS and minimize the filtering time. Reenactment effects exhibit that our plan can lessen the handover dormancy fundamentally. In this thesis, the proposed model decreased handover dormancy time by an acceptable percentage in comparison with Zhang et al. (2010).

### **6.2 Recommendations**

The discoveries of this study uncovered that handover is more than simply a gathering for imparting patient forethought. It is additionally utilized as a spot where medical caretakers can question, illuminate data and upgrade learning. Generally speaking, each one sort of handover had specific qualities and limits; in any case, nobody kind of handover was assessed as being more powerful. Attaining the different objectives of handover presents analysts and clinicians with a testing undertaking. It is important to investigate more innovative methods for leading the handover of patient mind, so that a critical part of nursing practice does not get delegated only one more custom. According to this study and the obtained results recommend the following:

- 1. Increase in the capacity of the BS, and this can be by increasing the number of splitters used in each BS to get more number of MS.
- 2. Increase of the frequency used in each BS, to cover larger coverage area, by make research about the used antenna.
- 3. Attaching rechargeable batteries to the BS so that when any accident happens and no electricity to be able to obtain its power supply from the batteries.

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APPENDIX

## **APPENDIX A**

## Simulation result list 1

Base Station ID	Handover Time	Signal Strength	Base Station Load	Cell Load Ratio
2	3.45E-07	-4.75E-05	4	0.02
2	3.34E-07	-3.80E-05	6	0.03
2	3.26E-07	-3.80E-05	4	0.02
2	3.35E-07	-5.48E-05	9	0.045
2	3.44E-07	-5.59E-05	5	0.025
2	3.14E-07	-4.99E-05	7	0.035
2	3.20E-07	-5.59E-05	5	0.025
2	3.22E-07	-5.34E-05	1	0.005
2	3.38E-07	-5.70E-05	7	0.035
2	3.29E-07	-4.99E-05	4	0.02
2	3.38E-07	-5.59E-05	7	0.035
2	3.36E-07	-5.34E-05	3	0.015
2	3.53E-07	-5.19E-05	5	0.025
2	3.36E-07	-3.80E-05	4	0.02
2	3.35E-07	-5.34E-05	8	0.04
2	3.52E-07	-5.19E-05	5	0.025
2	3.42E-07	-5.19E-05	7	0.035
2	3.27E-07	-4.75E-05	8	0.04
2	3.40E-07	-4.75E-05	2	0.01
2	3.31E-07	-5.59E-05	6	0.03
2	3.27E-07	-5.34E-05	6	0.03
2	3.29E-07	-5.48E-05	7	0.035
2	3.34E-07	-4.75E-05	2	0.01
2	3.31E-07	-5.34E-05	5	0.025
2	3.30E-07	-5.48E-05	8	0.04
2	2.61E-07	-5.19E-05	5	0.025
2	2.58E-07	-4.99E-05	5	0.025
2	2.72E-07	-3.80E-05	6	0.03
2	2.87E-07	-5.19E-05	1	0.005
2	2.69E-07	-5.48E-05	2	0.01
2	2.95E-07	-3.80E-05	6	0.03
2	2.95E-07	-5.59E-05	4	0.02
2	2.98E-07	-3.80E-05	9	0.045
2	2.84E-07	-5.70E-05	7	0.035
2	3.08E-07	-5.48E-05	1	0.005
2	3.09E-07	-5.70E-05	9	0.045
2	3.16E-07	-5.78E-05	7	0.035
2	2.93E-07	-5.48E-05	9	0.045

2	3.31E-07	-5.34E-05	3	0.015
2	3.14E-07	-3.80E-05	3	0.015
2	1.77E-07	-3.80E-05	4	0.02
2	1.51E-07	-5.59E-05	3	0.015
2	1.50E-07	-5.78E-05	6	0.03
2	1.56E-07	-5.48E-05	3	0.015
2	1.58E-07	-4.39E-05	4	0.02
2	1.55E-07	-5.19E-05	6	0.03
2	1.47E-07	-5.34E-05	5	0.025
2	1.48E-07	-3.80E-05	5	0.025
2	1.40E-07	-3.80E-05	1	0.005
2	1.49E-07	-5.48E-05	4	0.02
2	1.47E-07	-5.78E-05	3	0.015
2	1.52E-07	-4.39E-05	4	0.02
2	1.51E-07	-5.70E-05	1	0.005
2	1.41E-07	-5.59E-05	7	0.035
2	1.50E-07	-4.99E-05	4	0.02
2	1.55E-07	-5.70E-05	7	0.035
2	1.47E-07	-3.80E-05	9	0.045
2	1.46E-07	-4.75E-05	2	0.01
2	1.58E-07	-5.48E-05	4	0.02
2	1.61E-07	-5.78E-05	7	0.035
2	1.56E-07	-5.78E-05	4	0.02
2	1.53E-07	-5.59E-05	5	0.025
2	1.53E-07	-5.19E-05	1	0.005
2	1.44E-07	-4.39E-05	2	0.01
2	1.46E-07	-5.59E-05	7	0.035
2	1.47E-07	-4.99E-05	8	0.04
2	1.62E-07	-4.75E-05	1	0.005
2	1.53E-07	-5.19E-05	5	0.025
2	1.71E-07	-4.99E-05	3	0.015
2	1.81E-07	-4.99E-05	1	0.005
2	1.64E-07	-5.70E-05	1	0.005
2	1.64E-07	-5.19E-05	5	0.025
2	1.63E-07	-4.39E-05	3	0.015
2	1.68E-07	-5.70E-05	4	0.02
2	1.61E-07	-5.19E-05	4	0.02
2	1.54E-07	-5.48E-05	6	0.03
2	1.63E-07	-4.39E-05	1	0.005
2	1.59E-07	-5.78E-05	3	0.015
2	1.56E-07	-3.80E-05	3	0.015
2	1.62E-07	-5.70E-05	6	0.03
2	1.63E-07	-3.80E-05	4	0.02
2	1.60E-07	-5.59E-05	3	0.015

2	1.64E-07	-5.78E-05	6	0.03
2	1.67E-07	-5.48E-05	3	0.015
2	1.62E-07	-4.39E-05	4	0.02
2	1.62E-07	-5.19E-05	6	0.03
2	1.55E-07	-5.34E-05	5	0.025
2	1.47E-07	-3.80E-05	5	0.025
2	1.42E-07	-3.80E-05	1	0.005
2	1.55E-07	-5.48E-05	4	0.02
2	1.55E-07	-5.78E-05	3	0.015
2	1.53E-07	-4.39E-05	4	0.02
2	1.53E-07	-5.70E-05	1	0.005
2	1.42E-07	-5.59E-05	7	0.035
2	1.53E-07	-4.99E-05	4	0.02
2	1.55E-07	-5.70E-05	7	0.035
2	1.49E-07	-3.80E-05	9	0.045
2	1.47E-07	-4.75E-05	2	0.01
2	1.42E-07	-5.48E-05	4	0.02
2	1.48E-07	-5.78E-05	7	0.035
2	1.47E-07	-5.78E-05	4	0.02
2	1.42E-07	-5.59E-05	5	0.025
2	1.47E-07	-5.19E-05	1	0.005
2	1.40E-07	-4.39E-05	2	0.01
2	1.44E-07	-5.59E-05	7	0.035
2	1.42E-07	-4.99E-05	8	0.04
2	1.47E-07	-4.75E-05	1	0.005
2	1.45E-07	-5.19E-05	5	0.025
2	1.55E-07	-4.99E-05	3	0.015
2	1.50E-07	-4.99E-05	1	0.005
2	1.50E-07	-5.70E-05	1	0.005
2	1.50E-07	-5.19E-05	5	0.025
2	1.52E-07	-4.39E-05	3	0.015
2	1.56E-07	-5.70E-05	4	0.02
2	1.51E-07	-5.19E-05	4	0.02
2	1.49E-07	-5.48E-05	6	0.03
2	1.53E-07	-4.39E-05	1	0.005
2	1.51E-07	-5.78E-05	3	0.015
2	1.47E-07	-3.80E-05	3	0.015
2	1.53E-07	-5.70E-05	6	0.03
2	1.60E-07	-3.80E-05	4	0.02
2	1.54E-07	-5.59E-05	3	0.015
2	1.57E-07	-5.78E-05	6	0.03
2	1.65E-07	-5.48E-05	3	0.015
2	1.60E-07	-4.39E-05	4	0.02
2	1.66E-07	-5.19E-05	6	0.03

2	1.49E-07	-5.34E-05	5	0.025
2	1.47E-07	-3.80E-05	5	0.025
2	1.49E-07	-3.80E-05	1	0.005
2	1.60E-07	-5.48E-05	4	0.02
2	1.49E-07	-5.78E-05	. 3	0.015
2	1.59E-07	-4.39E-05	4	0.02
2	1.61E-07	-5.70E-05	1	0.005
2	1.46E-07	-5.59E-05	7	0.035
2	1.69E-07	-4.99E-05	4	0.02
2	1.76E-07	-5.70E-05	7	0.035
2	1.72E-07	-3.80E-05	9	0.045
2	1.56E-07	-4.75E-05	2	0.01
2	1.53E-07	-5.48E-05	4	0.02
2	1.61E-07	-5.78E-05	7	0.035
2	1.56E-07	-5.78E-05	4	0.02
2	1.53E-07	-5.59E-05	5	0.025
2	1.58E-07	-5.19E-05	1	0.005
2	1.50E-07	-4.39E-05	2	0.01
2	1.53E-07	-5.59E-05	7	0.035
2	1.53E-07	-4.99E-05	8	0.04
2	1.58E-07	-4.75E-05	1	0.005
2	1.56E-07	-5.19E-05	5	0.025
2	1.64E-07	-4.99E-05	3	0.015
2	1.62E-07	-4.99E-05	1	0.005
2	1.61E-07	-5.70E-05	1	0.005
2	1.59E-07	-5.19E-05	5	0.025
2	1.61E-07	-4.39E-05	3	0.015
2	1.69E-07	-5.70E-05	4	0.02
2	1.64E-07	-5.19E-05	4	0.02
2	1.54E-07	-5.48E-05	6	0.03
2	1.65E-07	-4.39E-05	1	0.005
2	1.62E-07	-5.78E-05	3	0.015
2	1.58E-07	-3.80E-05	3	0.015
2	1.65E-07	-5.70E-05	6	0.03
3	3.56E-07	-4.75E-05	4	0.02
3	3.50E-07	-3.80E-05	6	0.03
3	3.63E-07	-3.80E-05	4	0.02
3	3.33E-07	-5.48E-05	9	0.045
3	3.35E-07	-5.59E-05	5	0.025
3	3.10E-07	-4.99E-05	7	0.035
3	3.25E-07	-5.59E-05	5	0.025
3	3.21E-07	-5.34E-05	1	0.005
3	3.33E-07	-5.70E-05	7	0.035
3	3.46E-07	-4.99E-05	4	0.02

3	3.39E-07	-5.59E-05	7	0.035
3	3.36E-07	-5.34E-05	3	0.015
3	3.57E-07	-5.19E-05	5	0.025
3	3.28E-07	-3.80E-05	4	0.02
3	3.36E-07	-5.34E-05	8	0.04
3	3.49E-07	-5.19E-05	5	0.025
3	3.41E-07	-5.19E-05	7	0.035
3	3.28E-07	-4.75E-05	8	0.04
3	3.34E-07	-4.75E-05	2	0.01
3	3.37E-07	-5.59E-05	6	0.03
3	3.30E-07	-5.34E-05	6	0.03
3	3.38E-07	-5.48E-05	7	0.035
3	3.28E-07	-4.75E-05	2	0.01
3	3.20E-07	-5.34E-05	5	0.025
3	3.26E-07	-5.48E-05	8	0.04
3	2.77E-07	-5.19E-05	5	0.025
3	2.62E-07	-4.99E-05	5	0.025
3	2.62E-07	-3.80E-05	6	0.03
3	2.63E-07	-5.19E-05	1	0.005
3	3.02E-07	-5.48E-05	2	0.01
3	3.10E-07	-3.80E-05	6	0.03
3	3.04E-07	-5.59E-05	4	0.02
3	2.54E-07	-3.80E-05	9	0.045
3	3.00E-07	-5.70E-05	7	0.035
3	3.05E-07	-5.48E-05	1	0.005
3	3.06E-07	-5.70E-05	9	0.045
3	2.98E-07	-5.78E-05	7	0.035
3	2.95E-07	-5.48E-05	9	0.045
3	3.03E-07	-5.34E-05	3	0.015
3	3.04E-07	-3.80E-05	3	0.015
3	1.63E-07	-3.80E-05	4	0.02
3	1.51E-07	-5.59E-05	3	0.015
3	1.52E-07	-5.78E-05	6	0.03
3	1.53E-07	-5.48E-05	3	0.015
3	1.62E-07	-4.39E-05	4	0.02
3	1.53E-07	-5.19E-05	6	0.03
3	1.48E-07	-5.34E-05	5	0.025
3	1.51E-07	-3.80E-05	5	0.025
3	1.41E-07	-3.80E-05	1	0.005
3	1.49E-07	-5.48E-05	4	0.02
3	1.48E-07	-5.78E-05	3	0.015
3	1.52E-07	-4.39E-05	4	0.02
3	1.53E-07	-5.70E-05	1	0.005
3	1.41E-07	-5.59E-05	7	0.035

3	1.51E-07	-4.99E-05	4	0.02
3	1.54E-07	-5.70E-05	7	0.035
3	1.48E-07	-3.80E-05	9	0.045
3	1.47E-07	-4.75E-05	2	0.01
3	1.55E-07	-5.48E-05	4	0.02
3	1.66E-07	-5.78E-05	7	0.035
3	1.79E-07	-5.78E-05	4	0.02
3	1.53E-07	-5.59E-05	5	0.025
3	1.55E-07	-5.19E-05	1	0.005
3	1.42E-07	-4.39E-05	2	0.01
3	1.47E-07	-5.59E-05	7	0.035
3	1.45E-07	-4.99E-05	8	0.04
3	1.66E-07	-4.75E-05	1	0.005
3	1.56E-07	-5.19E-05	5	0.025
3	1.65E-07	-4.99E-05	3	0.015
3	1.62E-07	-4.99E-05	1	0.005
3	1.65E-07	-5.70E-05	1	0.005
3	1.64E-07	-5.19E-05	5	0.025
3	1.64E-07	-4.39E-05	3	0.015
3	1.68E-07	-5.70E-05	4	0.02
3	1.61E-07	-5.19E-05	4	0.02
3	1.53E-07	-5.48E-05	6	0.03
3	1.62E-07	-4.39E-05	1	0.005
3	1.64E-07	-5.78E-05	3	0.015
3	1.57E-07	-3.80E-05	3	0.015
3	1.63E-07	-5.70E-05	6	0.03
3	1.64E-07	-3.80E-05	4	0.02
3	1.65E-07	-5.59E-05	3	0.015
3	1.63E-07	-5.78E-05	6	0.03
3	1.69E-07	-5.48E-05	3	0.015
3	1.61E-07	-4.39E-05	4	0.02
3	1.63E-07	-5.19E-05	6	0.03
3	1.54E-07	-5.34E-05	5	0.025
3	1.48E-07	-3.80E-05	5	0.025
3	1.41E-07	-3.80E-05	1	0.005
3	1.58E-07	-5.48E-05	4	0.02
3	1.54E-07	-5.78E-05	3	0.015
3	1.54E-07	-4.39E-05	4	0.02
3	1.54E-07	-5.70E-05	I	0.005
3	1.43E-07	-5.59E-05	7	0.035
3	1.51E-07	-4.99E-05	4	0.02
3	1.55E-07	-5.70E-05	7	0.035
3	1.48E-07	-3.80E-05	9	0.045
3	1.47E-07	-4.75E-05	2	0.01

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3	1.44E-07	-5.48E-05	4	0.02
3	1.48E-07	-5.78E-05	7	0.035
3	1.45E-07	-5.78E-05	4	0.02
3	1.42E-07	-5.59E-05	5	0.025
3	1.48E-07	-5.19E-05	1	0.005
3	1.40E-07	-4.39E-05	2	0.01
3	1.45E-07	-5.59E-05	7	0.035
3	1.43E-07	-4.99E-05	8	0.04
3	1.47E-07	-4.75E-05	1	0.005
3	1.44E-07	-5.19E-05	5	0.025
3	1.77E-07	-4.99E-05	3	0.015
3	1.50E-07	-4.99E-05	1	0.005
3	1.50E-07	-5.70E-05	1	0.005
3	1.49E-07	-5.19E-05	5	0.025
3	1.51E-07	-4.39E-05	3	0.015
3	1.57E-07	-5.70E-05	4	0.02
3	1.51E-07	-5.19E-05	4	0.02
3	1.44E-07	-5.48E-05	6	0.03
3	1.52E-07	-4.39E-05	1	0.005
3	1.50E-07	-5.78E-05	3	0.015
3	1.48E-07	-3.80E-05	3	0.015
3	1.53E-07	-5.70E-05	6	0.03
3	1.59E-07	-3.80E-05	4	0.02
3 -	1.56E-07	-5.59E-05	3	0.015
3	1.58E-07	-5.78E-05	6	0.03
3	1.64E-07	-5.48E-05	3	0.015
3	1.58E-07	-4.39E-05	4	0.02
3	1.56E-07	-5.19E-05	6	0.03
3	1.49E-07	-5.34E-05	5	0.025
3	1.47E-07	-3.80E-05	5	0.025
3	1.47E-07	-3.80E-05	1	0.005
3	1.63E-07	-5.48E-05	4	0.02
3	1.56E-07	-5.78E-05	3	0.015
3	1.54E-07	-4.39E-05	4	0.02
3	1.60E-07	-5.70E-05	1	0.005
3	1.49E-07	-5.59E-05	7	0.035
3	1.83E-07	-4.99E-05	4	0.02
3	1.77E-07	-5.70E-05	7	0.035
3	1.70E-07	-3.80E-05	9	0.045
3	1.58E-07	-4.75E-05	2	0.01
3	1.58E-07	-5.48E-05	4	0.02
3	1.61E-07	-5.78E-05	7	0.035
3	1.58E-07	-5.78E-05	4	0.02
3	1.54E-07	-5.59E-05	5	0.025

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3	1.58E-07	-5.19E-05	] ]	0.005
3	1.50E-07	-4.39E-05	2	0.01
3	1.54E-07	-5.59E-05	7	0.035
3	1.53E-07	-4.99E-05	8	0.04
3	1.59E-07	-4.75E-05	1	0.005
3	1.53E-07	-5.19E-05	5	0.025
- 3	1.64E-07	-4.99E-05	3	0.015
3	1.62E-07	-4.99E-05	1	0.005
3	1.61E-07	-5.70E-05	1	0.005
3	1.61E-07	-5.19E-05	5	0.025
3	1.61E-07	-4.39E-05	3	0.015
3	1.69E-07	-5.70E-05	4	0.02
3	1.61E-07	-5.19E-05	4	0.02
3	1.56E-07	-5.48E-05	6	0.03
3	1.64E-07	-4.39E-05	1	0.005
3	1.62E-07	-5.78E-05	3	0.015
3	1.56E-07	-3.80E-05	3	0.015
3	1.64E-07	-5.70E-05	6	0.03
4	3.85E-07	-4.75E-05	4	0.02
4	3.73E-07	-3.80E-05	6	0.03
4	3.39E-07	-3.80E-05	4	0.02
4	3.42E-07	-5.48E-05	9	0.045
4	3.33E-07	-5.59E-05	5	0.025
4	3.09E-07	-4.99E-05	7	0.035
4	3.20E-07	-5.59E-05	5	0.025
4	3.21E-07	-5.34E-05	1	0.005
4	3.37E-07	-5.70E-05	7	0.035
4	3.31E-07	-4.99E-05	4	0.02
4	3.40E-07	-5.59E-05	7	0.035
4	3.40E-07	-5.34E-05	3	0.015
4	3.76E-07	-5.19E-05	5	0.025
4	3.26E-07	-3.80E-05	4	0.02
4	3.35E-07	-5.34E-05	8	0.04
4	3.47E-07	-5.19E-05	5	0.025
4	3.40E-07	-5.19E-05	7	0.035
4	3.32E-07	-4.75E-05	8	0.04
4	3.40E-07	-4.75E-05	2	0.01
4	3.33E-07	-5.59E-05	6	0.03
4	3.22E-07	-5.34E-05	6	0.03
4	3.80E-07	-5.48E-05	7	0.035
4	3.28E-07	-4.75E-05	2	0.01
4	3.29E-07	-5.34E-05	5	0.025
4	3.31E-07	-5.48E-05	8	0.04
4	2.61E-07	-5.19E-05	5	0.025

4	3.01E-07	-4.99E-05	5	0.025
4	2.80E-07	-3.80E-05	6	0.03
4	2.64E-07	-5.19E-05	1	0.005
4	2.90E-07	-5.48E-05	2	0.01
4	3.30E-07	-3.80E-05	6	0.03
4	2.86E-07	-5.59E-05	4	0.02
4	2.86E-07	-3.80E-05	9	0.045
4	2.86E-07	-5.70E-05	7	0.035
4	3.09E-07	-5.48E-05	1	0.005
4	3.13E-07	-5.70E-05	9	0.045
4	2.97E-07	-5.78E-05	7	0.035
4	2.98E-07	-5.48E-05	9	0.045
4	3.33E-07	-5.34E-05	3	0.015
4	2.87E-07	-3.80E-05	3	0.015
4	1.61E-07	-3.80E-05	4	0.02
4	1.50E-07	-5.59E-05	3	0.015
4	1.51E-07	-5.78E-05	6	0.03
4	1.55E-07	-5.48E-05	3	0.015
4	1.62E-07	-4.39E-05	4	0.02
4	1.58E-07	-5.19E-05	6	0.03
4	1.48E-07	-5.34E-05	5	0.025
4	1.46E-07	-3.80E-05	5	0.025
4	1.40E-07	-3.80E-05	1	0.005
4	1.49E-07	-5.48E-05	4	0.02
4	1.47E-07	-5.78E-05	3	0.015
4	1.51E-07	-4.39E-05	4	0.02
4	1.51E-07	-5.70E-05	1	0.005
4	1.41E-07	-5.59E-05	7	0.035
.4	1.50E-07	-4.99E-05	4	0.02
4	1.55E-07	-5.70E-05	7	0.035
4	1.48E-07	-3.80E-05	9	0.045
4	1.49E-07	-4.75E-05	2	0.01
4	1.55E-07	-5.48E-05	4	0.02
4	1.62E-07	-5.78E-05	7	0.035
4	1.57E-07	-5.78E-05	4	0.02
4	1.52E-07	-5.59E-05	5	0.025
4	1.52E-07	-5.19E-05	1	0.005
4	I.44E-07	-4.39E-05	2	0.01
4	1.46E-07	-5.59E-05	7	0.035
4	1.61E-07	-4.99E-05	8	0.04
4	1.61E-07	-4.75E-05	1	0.005
4	1.56E-07	-5.19E-05	5	0.025
4	1.65E-07	-4.99E-05	3	0.015
4	1.60E-07	-4.99E-05	1	0.005

4	1.59E-07	-5.70E-05	1	0.005
4	1.60E-07	-5.19E-05	5	0.025
4	1.62E-07	-4.39E-05	3	0.015
4	1.73E-07	-5.70E-05	4	0.02
4	1.64E-07	-5.19E-05	4	0.02
4	1.55E-07	-5.48E-05	6	0.03
4	1.61E-07	-4.39E-05	1	0.005
4	1.62E-07	-5.78E-05	3	0.015
4	1.57E-07	-3.80E-05	3	0.015
4	1.65E-07	-5.70E-05	6	0.03
4	1.61E-07	-3.80E-05	4	0.02
4	1.83E-07	-5.59E-05	3	0.015
4	1.62E-07	-5.78E-05	6	0.03
4	1.68E-07	-5.48E-05	3	0.015
4	1.61E-07	-4.39E-05	4	0.02
4	1.60E-07	-5.19E-05	6	0.03
4	1.56E-07	-5.34E-05	5	0.025
4	1.52E-07	-3.80E-05	5	0.025
4	1.41E-07	-3.80E-05	1	0.005
4	1.59E-07	-5.48E-05	4	0.02
4	1.55E-07	-5.78E-05	3	0.015
4	1.52E-07	-4.39E-05	4	0.02
4	1.53E-07	-5.70E-05	1	0.005
4	1.43E-07	-5.59E-05	7	0.035
4	1.51E-07	-4.99E-05	4	0.02
4	1.55E-07	-5.70E-05	7	0.035
4	1.48E-07	-3.80E-05	9	0.045
4	1.48E-07	-4.75E-05	2	0.01
4	1.42E-07	-5.48E-05	4	0.02
4	1.48E-07	-5.78E-05	7	0.035
4	1.46E-07	-5.78E-05	4	0.02
4	1.42E-07	-5.59E-05	5	0.025
4	1.48E-07	-5.19E-05	1	0.005
4	1.40E-07	-4.39E-05	2	0.01
4	1.45E-07	-5.59E-05	7	0.035
4	1.42E-07	-4.99E-05	8	0.04
4	1.47E-07	-4.75E-05	1	0.005
4	1.45E-07	-5.19E-05	5	0.025
4	1.54E-07	-4.99E-05	3	0.015
4	1.48E-07	-4.99E-05	1	0.005
4	1.51E-07	-5.70E-05	1	0.005
4	1.49E-07	-5.19E-05	5	0.025
4	1.52E-07	-4.39E-05	3	0.015
4	1.56E-07	-5.70E-05	4	0.02

4	1.50E-07	-5.19E-05	4	0.02
4	1.44E-07	-5.48E-05	6	0.03
4	1.53E-07	-4.39E-05	1	0.005
4	1.50E-07	-5.78E-05	3	0.015
4	1.47E-07	-3.80E-05	3	0.015
4	1.54E-07	-5.70E-05	6	0.03
4	1.59E-07	-3.80E-05	4	0.02
4	1.61E-07	-5.59E-05	3	0.015
4	1.52E-07	-5.78E-05	6	0.03
4	1.69E-07	-5.48E-05	3	0.015
4	1.57E-07	-4.39E-05	4	0.02
4	1.53E-07	-5.19E-05	6	0.03
4	1.57E-07	-5.34E-05	5	0.025
4	1.48E-07	-3.80E-05	5	0.025
4	1.42E-07	-3.80E-05	1	0.005
4	1.56E-07	-5.48E-05	4	0.02
4	1.50E-07	-5.78E-05	3	0.015
4	1.57E-07	-4.39E-05	4	0.02
4	1.54E-07	-5.70E-05	1	0.005
4	1.48E-07	-5.59E-05	7	0.035
4	1.72E-07	-4.99E-05	4	0.02
4	1.73E-07	-5.70E-05	7	0.035
4	1.54E-07	-3.80E-05	9	0.045
4	1.58E-07	-4.75E-05	2	0.01
4	1.54E-07	-5.48E-05	4	0.02
4	1.62E-07	-5.78E-05	7	0.035
4	1.56E-07	-5.78E-05	4	0.02
4	1.53E-07	-5.59E-05	5	0.025
4	1.62E-07	-5.19E-05	1	0.005
4	1.73E-07	-4.39E-05	2	0.01
4	1.55E-07	-5.59E-05	7	0.035
4	1.55E-07	-4.99E-05	8	0.04
4	1.59E-07	-4.75E-05	1	0.005
4	1.56E-07	-5.19E-05	5	0.025
4	1.67E-07	-4.99E-05	3	0.015
4	1.62E-07	-4.99E-05	1	0.005
4	1.62E-07	-5.70E-05	1	0.005
4	1.59E-07	-5.19E-05	5	0.025
4	1.61E-07	-4.39E-05	3	0.015
4	1.65E-07	-5.70E-05	4	0.02
4	1.64E-07	-5.19E-05	4	0.02
4	1.55E-07	-5.48E-05	6	0.03
4	1.65E-07	-4.39E-05	1	0.005
4	1.61E-07	-5.78E-05	3	0.015

4	1.59E-07	-3.80E-05	3	0.015
4	1.67E-07	-5.70E-05	6	0.03
5	3.91E-07	-4.75E-05	4	0.02
5	3.36E-07	-3.80E-05	6	0.03
5	3.16E-07	-3.80E-05	4	0.02
5	3.33E-07	-5.48E-05	9	0.045
5	3.36E-07	-5.59E-05	5	0.025
5	3.10E-07	-4.99E-05	7	0.035
5	3.30E-07	-5.59E-05	5	0.025
5	3.15E-07	-5.34E-05	1	0.005
5	3.32E-07	-5.70E-05	7	0.035
5	3.33E-07	-4.99E-05	4	0.02
5	3.38E-07	-5.59E-05	7	0.035
5	3.39E-07	-5.34E-05	3	0.015
5	3.51E-07	-5.19E-05	5	0.025
5	3.39E-07	-3.80E-05	4	0.02
5	3.37E-07	-5.34E-05	8	0.04
5	3.53E-07	-5.19E-05	5	0.025
5	3.36E-07	-5.19E-05	7	0.035
5	3.33E-07	-4.75E-05	8	0.04
5	3.44E-07	-4.75E-05	2	0.01
5	3.47E-07	-5.59E-05	6	0.03
5	3.29E-07	-5.34E-05	6	0.03
5	3.53E-07	-5.48E-05	7	0.035
5	3.23E-07	-4.75E-05	2	0.01
5	3.30E-07	-5.34E-05	5	0.025
5	3.15E-07	-5.48E-05	8	0.04
5	2.50E-07	-5.19E-05	5	0.025
5	2.58E-07	-4.99E-05	5	0.025
5	2.83E-07	-3.80E-05	6	0.03
5	2.77E-07	-5.19E-05	1	0.005
5	2.80E-07	-5.48E-05	2	0.01
5	3.23E-07	-3.80E-05	6	0.03
5	3.16E-07	-5.59E-05	4	0.02
5	3.13E-07	-3.80E-05	9	0.045
5	2.84E-07	-5.70E-05	7	0.035
5	3.08E-07	-5.48E-05	1	0.005
5	3.06E-07	-5.70E-05	9	0.045
5	2.86E-07	-5.78E-05	7	0.035
5	3.00E-07	-5.48E-05	9	0.045
5	3.46E-07	-5.34E-05	3	0.015
5	3.04E-07	-3.80E-05	3	0.015
5	1.51E-07	-3.80E-05	4	0.02
5	1.50E-07	-5.59E-05	3	0.015

5	1.53E-07	-5.78E-05	6	0.03
5	1.55E-07	-5.48E-05	3	0.015
5	1.69E-07	-4.39E-05	4	0.02
5	1.50E-07	-5.19E-05	6	0.03
5	1.50E-07	-5.34E-05	5	0.025
5	1.47E-07	-3.80E-05	5	0.025
5	1.41E-07	-3.80E-05	1	0.005
5	1.71E-07	-5.48E-05	4	0.02
5	1.48E-07	-5.78E-05	3	0.015
5	1.53E-07	-4.39E-05	4	0.02
5	1.51E-07	-5.70E-05	1	0.005
5	1.52E-07	-5.59E-05	7	0.035
5	1.50E-07	-4.99E-05	4	0.02
5	1.54E-07	-5.70E-05	7	0.035
5	1.48E-07	-3.80E-05	9	0.045
5	1.48E-07	-4.75E-05	2	0.01
5	1.53E-07	-5.48E-05	4	0.02
5	1.59E-07	-5.78E-05	7	0.035
5	1.62E-07	-5.78E-05	4	0.02
5	1.54E-07	-5.59E-05	5	0.025
5	1.52E-07	-5.19E-05	1	0.005
5	1.45E-07	-4.39E-05	2	0.01
5	1.44E-07	-5.59E-05	7	0.035
5	1.64E-07	-4.99E-05	8	0.04
5	1.59E-07	-4.75E-05	1	0.005
5	1.55E-07	-5.19E-05	5	0.025
5	1.65E-07	-4.99E-05	3	0.015
5	1.60E-07	-4.99E-05	1	0.005
5	1.64E-07	-5.70E-05	1	0.005
5	1.86E-07	-5.19E-05	5	0.025
5	1.65E-07	-4.39E-05	3	0.015
5	1.71E-07	-5.70E-05	4	0.02
5	1.61E-07	-5.19E-05	4	0.02
5	1.54E-07	-5.48E-05	6	0.03
5	1.61E-07	-4.39E-05	1	0.005
5	1.67E-07	-5.78E-05	3	0.015
5	1.61E-07	-3.80E-05	3	0.015
5	1.61E-07	-5.70E-05	6	0.03
5	1.60E-07	-3.80E-05	4	0.02
5	1.65E-07	-5.59E-05	3	0.015
5	1.63E-07	-5.78E-05	6	0.03
5	1.70E-07	-5.48E-05	3	0.015
5	1.61E-07	-4.39E-05	4	0.02
5	1.52E-07	-5.19E-05	6	0.03

5	1.53E-07	-5.34E-05	5	0.025
5	1.46E-07	-3.80E-05	5	0.025
5	1.48E-07	-3.80E-05	1	0.005
5	1.54E-07	-5.48E-05	4	0.02
5	1.52E-07	-5.78E-05	3	0.015
5	1.53E-07	-4.39E-05	4	0.02
5	1.53E-07	-5.70E-05	1	0.005
5	1.49E-07	-5.59E-05	7	0.035
5	1.52E-07	-4.99E-05	4	0.02
5	1.55E-07	-5.70E-05	7	0.035
5	1.48E-07	-3.80E-05	9	0.045
5	1.47E-07	-4.75E-05	2	0.01
5	1.42E-07	-5.48E-05	4	0.02
5	1.47E-07	-5.78E-05	7	0.035
5	1.46E-07	-5.78E-05	4	0.02
5	1.43E-07	-5.59E-05	5	0.025
5	1.48E-07	-5.19E-05	1	0.005
5	1.42E-07	-4.39E-05	2	0.01
5	1.45E-07	-5.59E-05	7	0.035
5	1.43E-07	-4.99E-05	8	0.04
5	1.46E-07	-4.75E-05	1	0.005
5	1.44E-07	-5.19E-05	5	0.025
- 5	1.54E-07	-4.99E-05	3	0.015
5	1.50E-07	-4.99E-05	1	0.005
5	1.50E-07	-5.70E-05	1	0.005
5	1.49E-07	-5.19E-05	5	0.025
5	1.51E-07	-4.39E-05	3	0.015
5	1.57E-07	-5.70E-05	4	0.02
5	1.53E-07	-5.19E-05	4	0.02
5	1.44E-07	-5.48E-05	6	0.03
5	1.53E-07	-4.39E-05	1	0.005
5	1.50E-07	-5.78E-05	3	0.015
5	1.47E-07	-3.80E-05	3	0.015
5	1.54E-07	-5.70E-05	6	0.03
5	1.60E-07	-3.80E-05	4	0.02
5	1.62E-07	-5.59E-05	3	0.015
5	1.61E-07	-5.78E-05	6	0.03
5	1.71E-07	-5.48E-05	3	0.015
5	1.58E-07	-4.39E-05	4	0.02
5	1.51E-07	-5.19E-05	6	0.03
5	1.60E-07	-5.34E-05	5	0.025
5	1.49E-07	-3.80E-05	5	0.025
5	1.42E-07	-3.80E-05	1	0.005
5	1.58E-07	-5.48E-05	4	0.02

5	1.49E-07	-5.78E-05	3	0.015
5	1.67E-07	-4.39E-05	4	0.02
5	1.54E-07	-5.70E-05	1	0.005
5	1.47E-07	-5.59E-05	7	0.035
5	1.73E-07	-4.99E-05	4	0.02
5	1.77E-07	-5.70E-05	7	0.035
5	1.51E-07	-3.80E-05	9	0.045
5	1.61E-07	-4.75E-05	2	0.01
5	1.56E-07	-5.48E-05	4	0.02
5	1.59E-07	-5.78E-05	7	0.035
5	1.61E-07	-5.78E-05	4	0.02
5	1.53E-07	-5.59E-05	5	0.025
5	1.59E-07	-5.19E-05	1	0.005
5	1.48E-07	-4.39E-05	2	0.01
5	1.56E-07	-5.59E-05	7	0.035
5	1.53E-07	-4.99E-05	8	0.04
5	1.59E-07	-4.75E-05	1	0.005
5	1.56E-07	-5.19E-05	5	0.025
5	1.64E-07	-4.99E-05	3	0.015
5	1.61E-07	-4.99E-05	1	0.005
5	1.62E-07	-5.70E-05	1	0.005
5	1.58E-07	-5.19E-05	5	0.025
5	1.62E-07	-4.39E-05	3	0.015
5	1.67E-07	-5.70E-05	4	0.02
5	1.62E-07	-5.19E-05	4	0.02
5	1.54E-07	-5.48E-05	6	0.03
5	1.62E-07	-4.39E-05	1	0.005
5	1.65E-07	-5.78E-05	3	0.015
5	1.87E-07	-3.80E-05	3	0.015
5	1.64E-07	-5.70E-05	6	0.03
6	4.03E-07	-4.75E-05	4	0.02
6	3.43E-07	-3.80E-05	6	0.03
6	3.20E-07	-3.80E-05	4	0.02
6	3.37E-07	-5.48E-05	9	0.045
6	3.36E-07	-5.59E-05	5	0.025
6	3.14E-07	-4.99E-05	7	0.035
6	3.21E-07	-5.59E-05	5	0.025
6	3.24E-07	-5.34E-05	1	0.005
6	3.42E-07	-5.70E-05	7	0.035
6	3.29E-07	-4.99E-05	4	0.02
6	3.36E-07	-5.59E-05	7	0.035
6	3.43E-07	-5.34E-05	3	0.015
6	3.57E-07	-5.19E-05	5	0.025
6	3.27E-07	-3.80E-05	4	0.02

6	3.32E-07	-5.34E-05	8	0.04
6	3.61E-07	-5.19E-05	5	0.025
6	3.44E-07	-5.19E-05	7	0.035
6	3.34E-07	-4.75E-05	8	0.04
6	3.40E-07	-4.75E-05	2	0.01
6	3.21E-07	-5.59E-05	6	0.03
6	3.18E-07	-5.34E-05	6	0.03
6	3.39E-07	-5.48E-05	7	0.035
6	3.33E-07	-4.75E-05	2	0.01
6	3.24E-07	-5.34E-05	5	0.025
6	3.16E-07	-5.48E-05	8	0.04
6	2.77E-07	-5.19E-05	5	0.025
6	2.71E-07	-4.99E-05	5	0.025
6	2.90E-07	-3.80E-05	6	0.03
6	2.86E-07	-5.19E-05	1	0.005
6	2.69E-07	-5.48E-05	2	0.01
6	3.13E-07	-3.80E-05	6	0.03
6	3.16E-07	-5.59E-05	4	0.02
6	2.84E-07	-3.80E-05	9	0.045
6	2.80E-07	-5.70E-05	7	0.035
6	3.10E-07	-5.48E-05	1	0.005
6	3.11E-07	-5.70E-05	9	0.045
6	3.06E-07	-5.78E-05	7	0.035
6	2.70E-07	-5.48E-05	9	0.045
6	3.15E-07	-5.34E-05	3	0.015
6	3.23E-07	-3.80E-05	3	0.015
6	1.51E-07	-3.80E-05	4	0.02
6	1.50E-07	-5.59E-05	3	0.015
6	1.51E-07	-5.78E-05	6	0.03
6	1.57E-07	-5.48E-05	3	0.015
6	1.59E-07	-4.39E-05	4	0.02
6	1.50E-07	-5.19E-05	6	0.03
6	1.47E-07	-5.34E-05	5	0.025
6	1.46E-07	-3.80E-05	5	0.025
6	1.40E-07	-3.80E-05	1	0.005
6	1.49E-07	-5.48E-05	4	0.02
6	1.47E-07	-5.78E-05	3	0.015
6	1.55E-07	-4.39E-05	4	0.02
6	1.51E-07	-5.70E-05	1	0.005
6	1.55E-07	-5.59E-05	7	0.035
6	1.52E-07	-4.99E-05	4	0.02
6	1.76E-07	-5.70E-05	7	0.035
6	1.48E-07	-3.80E-05	9	0.045
6	1.47E-07	-4.75E-05	2	0.01

6	1.55E-07	-5.48E-05	4	0.02
6	1.59E-07	-5.78E-05	7	0.035
6	1.56E-07	-5.78E-05	4	0.02
6	1.50E-07	-5.59E-05	5	0.025
6	1.57E-07	-5.19E-05	1	0.005
6	1.45E-07	-4.39E-05	2	0.01
6	1.45E-07	-5.59E-05	7	0.035
6	1.67E-07	-4.99E-05	8	0.04
6	1.56E-07	-4.75E-05	1	0.005
6	1.53E-07	-5.19E-05	5	0.025
6	1.65E-07	-4.99E-05	3	0.015
6	1.59E-07	-4.99E-05	1	0.005
6	1.60E-07	-5.70E-05	1	0.005
6	1.62E-07	-5.19E-05	5	0.025
6	1.66E-07	-4.39E-05	3	0.015
6	1.68E-07	-5.70E-05	4	0.02
6	1.60E-07	-5.19E-05	4	0.02
6	1.56E-07	-5.48E-05	6	0.03
6	1.62E-07	-4.39E-05	1	0.005
6	1.65E-07	-5.78E-05	3	0.015
6	1.58E-07	-3.80E-05	3	0.015
6	1.60E-07	-5.70E-05	6	0.03
6	1.61E-07	-3.80E-05	4	0.02
6	1.64E-07	-5.59E-05	3	0.015
6	1.63E-07	-5.78E-05	6	0.03
6	1.70E-07	-5.48E-05	3	0.015
6	1.60E-07	-4.39E-05	4	0.02
6	1.51E-07	-5.19E-05	6	0.03
6	1.54E-07	-5.34E-05	5	0.025
6	1.55E-07	-3.80E-05	5	0.025
6	1.46E-07	-3.80E-05	1	0.005
6	1.58E-07	-5.48E-05	4	0.02
6	1.54E-07	-5.78E-05	3	0.015
6	1.52E-07	-4.39E-05	4	0.02
6	1.53E-07	-5.70E-05	1	0.005
6	1.44E-07	-5.59E-05	7	0.035
6	1.51E-07	-4.99E-05	4	0.02
6	1.55E-07	-5.70E-05	7	0.035
6	1.49E-07	-3.80E-05	9	0.045
6	1.49E-07	-4.75E-05	2	0.01
6	1.42E-07	-5.48E-05	4	0.02
6	1.48E-07	-5.78E-05	7	0.035
6	1.47E-07	-5.78E-05	4	0.02
6	1.42E-07	-5.59E-05	5	0.025

6	1.48E-07	-5.19E-05	1	0.005
6	1.41E-07	-4.39E-05	2	0.01
6	1.46E-07	-5.59E-05	7	0.035
6	1.44E-07	-4.99E-05	8	0.04
6	1.46E-07	-4.75E-05	1	0.005
6	1.45E-07	-5.19E-05	5	0.025
6	1.55E-07	-4.99E-05	3	0.015
6	1.50E-07	-4.99E-05	1	0.005
6	1.50E-07	-5.70E-05	I	0.005
6	1.48E-07	-5.19E-05	5	0.025
6	1.52E-07	-4.39E-05	3	0.015
6	1.56E-07	-5.70E-05	4	0.02
6	1.50E-07	-5.19E-05	4	0.02
6	1.44E-07	-5.48E-05	6	0.03
6	1.79E-07	-4.39E-05	1	0.005
6	1.51E-07	-5.78E-05	3	0.015
6	1.47E-07	-3.80E-05	3	0.015
6	1.76E-07	-5.70E-05	6	0.03
6	1.57E-07	-3.80E-05	4	0.02
6	1.65E-07	-5.59E-05	3	0.015
6	1.64E-07	-5.78E-05	6	0.03
6	1.68E-07	-5.48E-05	3	0.015
6	1.51E-07	-4.39E-05	4	0.02
6	1.52E-07	-5.19E-05	6	0.03
6	1.49E-07	-5.34E-05	5	0.025
6	1.54E-07	-3.80E-05	5	0.025
6	1.43E-07	-3.80E-05	1	0.005
6	1.58E-07	-5.48E-05	4	0.02
6	1.48E-07	-5.78E-05	3	0.015
6	1.54E-07	-4.39E-05	4	0.02
6	1.59E-07	-5.70E-05	1	0.005
6	1.51E-07	-5.59E-05	7	0.035
6	1.84E-07	-4.99E-05	4	0.02
6	1.83E-07	-5.70E-05	7	0.035
6	1.51E-07	-3.80E-05	9	0.045
6	1.58E-07	-4.75E-05	2	0.01
6	1.53E-07	-5.48E-05	4	0.02
6	1.61E-07	-5.78E-05	7	0.035
6	1.56E-07	-5.78E-05	4	0.02
6	1.54E-07	-5.59E-05	5	0.025
6	1.59E-07	-5.19E-05	1	0.005
6	1.51E-07	-4.39E-05	2	0.01
6	1.56E-07	-5.59E-05	7	0.035
6	1.55E-07	-4.99E-05	8	0.04

6	1.56E-07	-4.75E-05	1	0.005
6	1.54E-07	-5.19E-05	5	0.025
6	1.65E-07	-4.99E-05	3	0.015
6	1.62E-07	-4.99E-05	1	0.005
6	1.61E-07	-5.70E-05	1	0.005
6	1.61E-07	-5.19E-05	5	0.025
6	1.62E-07	-4.39E-05	3	0.015
6	1.69E-07	-5.70E-05	4	0.02
6	1.64E-07	-5.19E-05	4	0.02
6	1.53E-07	-5.48E-05	6	0.03
6	1.67E-07	-4.39E-05	1	0.005
6	1.64E-07	-5.78E-05	3	0.015
6	1.58E-07	-3.80E-05	3	0.015
6	1.65E-07	-5.70E-05	6	0.03
7	3.66E-07	-4.75E-05	4	0.02
7	3.49E-07	-3.80E-05	6	0.03
7	3.14E-07	-3.80E-05	4	0.02
7	3.33E-07	-5.48E-05	9	0.045
7	3.43E-07	-5.59E-05	5	0.025
7	3.10E-07	-4.99E-05	7	0.035
7	3.23E-07	-5.59E-05	5	0.025
7	3.23E-07	-5.34E-05	1	0.005
7	3.35E-07	-5.70E-05	7	0.035
7	3.37E-07	-4.99E-05	4	0.02
7	3.39E-07	-5.59E-05	7	0.035
7	3.37E-07	-5.34E-05	3	0.015
7	3.53E-07	-5.19E-05	5	0.025
7	3.33E-07	-3.80E-05	4	0.02
7	3.30E-07	-5.34E-05	8	0.04
7	3.50E-07	-5.19E-05	5	0.025
7	3.40E-07	-5.19E-05	7	0.035
7	3.36E-07	-4.75E-05	8	0.04
7	3.42E-07	-4.75E-05	2	0.01
7	3.34E-07	-5.59E-05	6	0.03
7	3.21E-07	-5.34E-05	6	0.03
7	3.54E-07	-5.48E-05	7	0.035
7	3.29E-07	-4.75E-05	2	0.01
7	3.26E-07	-5.34E-05	5	0.025
7	3.27E-07	-5.48E-05	8	0.04
7	2.78E-07	-5.19E-05	5	0.025
7	2.59E-07	-4.99E-05	5	0.025
7	2.99E-07	-3.80E-05	6	0.03
7	3.17E-07	-5.19E-05	1	0.005
7	3.02E-07	-5.48E-05	2	0.01

7	3.19E-07	-3.80E-05	6	0.03
7	3.10E-07	-5.59E-05	4	0.02
7	2.71E-07	-3.80E-05	9	0.045
7	2.71E-07	-5.70E-05	7	0.035
7	3.20E-07	-5.48E-05	1	0.005
7	2.91E-07	-5.70E-05	9	0.045
7	2.76E-07	-5.78E-05	7	0.035
7	2.69E-07	-5.48E-05	9	0.045
7	3.22E-07	-5.34E-05	3	0.015
7	3.01E-07	-3.80E-05	3	0.015
7	1.63E-07	-3.80E-05	4	0.02
7	1.50E-07	-5.59E-05	3	0.015
7	1.51E-07	-5.78E-05	6	0.03
7	1.57E-07	-5.48E-05	3	0.015
7	1.59E-07	-4.39E-05	4	0.02
7	1.51E-07	-5.19E-05	6	0.03
7	1.47E-07	-5.34E-05	5	0.025
7	1.46E-07	-3.80E-05	5	0.025
7	1.41E-07	-3.80E-05	1	0.005
7	1.49E-07	-5.48E-05	4	0.02
7	1.47E-07	-5.78E-05	3	0.015
7	1.58E-07	-4.39E-05	4	0.02
7	1.51E-07	-5.70E-05	1	0.005
7	1.51E-07	-5.59E-05	7	0.035
7	1.50E-07	-4.99E-05	4	0.02
7	1.55E-07	-5.70E-05	7	0.035
7	1.48E-07	-3.80E-05	9	0.045
7	1.47E-07	-4.75E-05	2	0.01
7	1.56E-07	-5.48E-05	4	0.02
7	1.58E-07	-5.78E-05	7	0.035
7	1.56E-07	-5.78E-05	4	0.02
7	1.56E-07	-5.59E-05	5	0.025
7	1.54E-07	-5.19E-05	1	0.005
7	1.44E-07	-4.39E-05	2	0.01
7	1.45E-07	-5.59E-05	7	0.035
7	1.94E-07	-4.99E-05	8	0.04
7	1.56E-07	-4.75E-05	1	0.005
7	1.54E-07	-5.19E-05	5	0.025
7	1.65E-07	-4.99E-05	3	0.015
7	1.59E-07	-4.99E-05	1	0.005
7	1.59E-07	-5.70E-05	1	0.005
7	1.58E-07	-5.19E-05	5	0.025
7	1.62E-07	-4.39E-05	3	0.015
7	1.70E-07	-5.70E-05	4	0.02

7	1.66E-07	-5.19E-05	4	0.02
7	1.52E-07	-5.48E-05	6	0.03
7	1.67E-07	-4.39E-05	1	0.005
7	1.61E-07	-5.78E-05	3	0.015
7	1.62E-07	-3.80E-05	3	0.015
7	1.59E-07	-5.70E-05	6	0.03
7	1.61E-07	-3.80E-05	4	0.02
7	1.62E-07	-5.59E-05	3	0.015
7	1.63E-07	-5.78E-05	6	0.03
7	1.69E-07	-5.48E-05	3	0.015
7	1.62E-07	-4.39E-05	4	0.02
7	1.55E-07	-5.19E-05	6	0.03
7	1.54E-07	-5.34E-05	5	0.025
7	1.55E-07	-3.80E-05	5	0.025
7	1.46E-07	-3.80E-05	1	0.005
7	1.54E-07	-5.48E-05	4	0.02
7	1.50E-07	-5.78E-05	3	0.015
7	1.53E-07	-4.39E-05	4	0.02
7	1.53E-07	-5.70E-05	1	0.005
7	1.41E-07	-5.59E-05	7	0.035
7	1.49E-07	-4.99E-05	4	0.02
7	1.55E-07	-5.70E-05	7	0.035
7	1.48E-07	-3.80E-05	9	0.045
7	1.46E-07	-4.75E-05	2	0.01
7	1.44E-07	-5.48E-05	4	0.02
7	1.49E-07	-5.78E-05	7	0.035
7	1.46E-07	-5.78E-05	4	0.02
7	1.65E-07	-5.59E-05	5	0.025
7	1.48E-07	-5.19E-05	1	0.005
7	1.40E-07	-4.39E-05	2	0.01
7	1.49E-07	-5.59E-05	7	0.035
7	1.42E-07	-4.99E-05	8	0.04
7	1.46E-07	-4.75E-05	1	0.005
7	1.44E-07	-5.19E-05	5	0.025
7	1.54E-07	-4.99E-05	3	0.015
7	1.50E-07	-4.99E-05	1	0.005
7	1.50E-07	-5.70E-05	1	0.005
7	1.49E-07	-5.19E-05	5	0.025
7	1.52E-07	-4.39E-05	3	0.015
7	1.56E-07	-5.70E-05	4	0.02
7	1.50E-07	-5.19E-05	4	0.02
7	1.43E-07	-5.48E-05	6	0.03
7	1.53E-07	-4.39E-05	1	0.005
7	1.50E-07	-5.78E-05	3	0.015

7	1.47E-07	-3.80E-05	3	0.015
7	1.55E-07	-5.70E-05	6	0.03
7	1.59E-07	-3.80E-05	4	0.02
. 7	1.61E-07	-5.59E-05	3	0.015
7	1.64E-07	-5.78E-05	6	0.03
7	1.64E-07	-5.48E-05	3	0.015
7	1.50E-07	-4.39E-05	4	0.02
7	1.61E-07	-5.19E-05	6	0.03
7	1.57E-07	-5.34E-05	5	0.025
7	1.50E-07	-3.80E-05	5	0.025
7	1.42E-07	-3.80E-05	1	0.005
7	1.54E-07	-5.48E-05	4	0.02
7	1.49E-07	-5.78E-05	3	0.015
7	1.57E-07	-4.39E-05	4	0.02
7	1.54E-07	-5.70E-05	1	0.005
7	1.51E-07	-5.59E-05	7	0.035
7	1.73E-07	-4.99E-05	4	0.02
7	1.84E-07	-5.70E-05	7	0.035
7	1.48E-07	-3.80E-05	9	0.045
7	1.56E-07	-4.75E-05	2	0.01
7	1.54E-07	-5.48E-05	4	0.02
7	1.62E-07	-5.78E-05	7	0.035
7	1.58E-07	-5.78E-05	4	0.02
7	1.53E-07	-5.59E-05	5	0.025
7	1.58E-07	-5.19E-05	1	0.005
7	1.50E-07	-4.39E-05	2	0.01
7	1.58E-07	-5.59E-05	7	0.035
7	1.54E-07	-4.99E-05	8	0.04
7	1.55E-07	-4.75E-05	1	0.005
7	1.56E-07	-5.19E-05	5	0.025
7	1.64E-07	-4.99E-05	3	0.015
7	1.62E-07	-4.99E-05	I	0.005
7	1.83E-07	-5.70E-05	1	0.005
7	1.62E-07	-5.19E-05	5	0.025
7	1.65E-07	-4.39E-05	3	0.015
7	1.65E-07	-5.70E-05	4	0.02
7	1.62E-07	-5.19E-05	4	0.02
7	1.54E-07	-5.48E-05	6	0.03
7	1.67E-07	-4.39E-05	1	0.005
7	1.62E-07	-5.78E-05	3	0.015
7	1.58E-07	-3.80E-05	3	0.015
7	1.64E-07	-5.70E-05	6	0.03
8	1.46E-07	-3.80E-05	4	0.02
8	1.50E-07	-5.59E-05	3	0.015

8	1.51E-07	-5.78E-05	6	0.03
8	1.56E-07	-5.48E-05	3	0.015
8	1.62E-07	-4.39E-05	4	0.02
8	1.53E-07	-5.19E-05	6	0.03
8	1.48E-07	-5.34E-05	5	0.025
8	1.46E-07	-3.80E-05	5	0.025
8	1.42E-07	-3.80E-05	1	0.005
8	1.48E-07	-5.48E-05	4	0.02
8	1.48E-07	-5.78E-05	3	0.015
8	1.51E-07	-4.39E-05	4	0.02
8	1.55E-07	-5.70E-05	1	0.005
8	1.48E-07	-5.59E-05	7	0.035
8	1.54E-07	-4.99E-05	4	0.02
8	1.54E-07	-5.70E-05	7	0.035
8	1.47E-07	-3.80E-05	9	0.045
8	1.47E-07	-4.75E-05	2	0.01
8	1.54E-07	-5.48E-05	4	0.02
8	1.62E-07	-5.78E-05	7	0.035
8	1.56E-07	-5.78E-05	4	0.02
8	1.56E-07	-5.59E-05	5	0.025
8	1.53E-07	-5.19E-05	1	0.005
8	1.42E-07	-4.39E-05	2	0.01
8	1.45E-07	-5.59E-05	7	0.035
8	1.74E-07	-4.99E-05	8	0.04
8	1.57E-07	-4.75E-05	1	0.005
8	1.57E-07	-5.19E-05	5	0.025
8	1.65E-07	-4.99E-05	3	0.015
8	1.60E-07	-4.99E-05	1	0.005
8	1.60E-07	-5.70E-05	1	0.005
8	1.62E-07	-5.19E-05	5	0.025
8	1.66E-07	-4.39E-05	3	0.015
8	1.72E-07	-5.70E-05	4	0.02
8	1.63E-07	-5.19E-05	4	0.02
8	1.52E-07	-5.48E-05	6	0.03
8	1.62E-07	-4.39E-05	1	0.005
8	1.64E-07	-5.78E-05	3	0.015
8	1.57E-07	-3.80E-05	3	0.015
8	1.64E-07	-5.70E-05	6	0.03
8	1.69E-07	-3.80E-05	4	0.02
8	1.61E-07	-5.59E-05	3	0.015
8	1.62E-07	-5.78E-05	6	0.03
8	1.68E-07	-5.48E-05	3	0.015
8	1.60E-07	-4.39E-05	4	0.02
8	1.52E-07	-5.19E-05	6	0.03

8	1.54E-07	-5.34E-05	5	0.025
8	1.54E-07	-3.80E-05	5	0.025
8	1.48E-07	-3.80E-05	1	0.005
8	1.54E-07	-5.48E-05	4	0.02
8	1.54E-07	-5.78E-05	3	0.015
8	1.53E-07	-4.39E-05	4	0.02
8	1.54E-07	-5.70E-05	1	0.005
8	1.40E-07	-5.59E-05	7	0.035
8	1.50E-07	-4.99E-05	4	0.02
8	1.55E-07	-5.70E-05	7	0.035
8	1.50E-07	-3.80E-05	9	0.045
8	1.47E-07	-4.75E-05	2	0.01
8	1.44E-07	-5.48E-05	4	0.02
8	1.48E-07	-5.78E-05	7	0.035
8	1.47E-07	-5.78E-05	4	0.02
8	1.41E-07	-5.59E-05	5	0.025
8	1.48E-07	-5.19E-05	1	0.005
8	1.41E-07	-4.39E-05	2	0.01
8	1.46E-07	-5.59E-05	7	0.035
8	1.43E-07	-4.99E-05	8	0.04
8	1.46E-07	-4.75E-05	1	0.005
8	1.44E-07	-5.19E-05	5	0.025
8	1.54E-07	-4.99E-05	3	0.015
8	1.51E-07	-4.99E-05	1	0.005
8	1.50E-07	-5.70E-05	1	0.005
8	1.49E-07	-5.19E-05	5	0.025
8	1.52E-07	-4.39E-05	3	0.015
8	1.56E-07	-5.70E-05	4	0.02
8	1.51E-07	-5.19E-05	4	0.02
8	1.43E-07	-5.48E-05	6	0.03
8	1.52E-07	-4.39E-05	1	0.005
8	1.51E-07	-5.78E-05	3	0.015
8	1.47E-07	-3.80E-05	3	0.015
8	1.53E-07	-5.70E-05	6	0.03
8	1.59E-07	-3.80E-05	4	0.02
8	1.53E-07	-5.59E-05	3	0.015
8	1.88E-07	-5.78E-05	6	0.03
8	1.56E-07	-5.48E-05	3	0.015
8	1.50E-07	-4.39E-05	4	0.02
8	1.58E-07	-5.19E-05	6	0.03
8	1.49E-07	-5.34E-05	5	0.025
8	1.56E-07	-3.80E-05	5	0.025
8	1.42E-07	-3.80E-05	1	0.005
8	1.55E-07	-5.48E-05	4	0.02

8	1.53E-07	-5.78E-05	3	0.015
8	1.57E-07	-4.39E-05	4	0.02
8	1.54E-07	-5.70E-05	1	0.005
8	1.60E-07	-5.59E-05	7	0.035
8	1.74E-07	-4.99E-05	4	0.02
8	1.81E-07	-5.70E-05	7	0.035
8	1.58E-07	-3.80E-05	9	0.045
8	1.56E-07	-4.75E-05	2	0.01
8	1.58E-07	-5.48E-05	4	0.02
8	1.84E-07	-5.78E-05	7	0.035
8	1.54E-07	-5.78E-05	4	0.02
8	1.53E-07	-5.59E-05	5	0.025
8	1.56E-07	-5.19E-05	1	0.005
8	1.50E-07	-4.39E-05	2	0.01
8	1.54E-07	-5.59E-05	7	0.035
8	1.54E-07	-4.99E-05	8	0.04
8	1.58E-07	-4.75E-05	1	0.005
8	1.53E-07	-5.19E-05	5	0.025
8	1.67E-07	-4.99E-05	3	0.015
8	1.59E-07	-4.99E-05	1	0.005
8	1.62E-07	-5.70E-05	1	0.005
8	1.61E-07	-5.19E-05	5	0.025
8	1.62E-07	-4.39E-05	3	0.015
8	1.67E-07	-5.70E-05	4	0.02
8	1.61E-07	-5.19E-05	4	0.02
8	1.54E-07	-5.48E-05	6	0.03
8	1.64E-07	-4.39E-05	1	0.005
8	1.61E-07	-5.78E-05	3	0.015
8	1.56E-07	-3.80E-05	3	0.015
8	1.62E-07	-5.70E-05	6	0.03
9	1.50E-07	-3.80E-05	4	0.02
9	1.50E-07	-5.59E-05	3	0.015
9	1.73E-07	-5.78E-05	6	0.03
9	1.53E-07	-5.48E-05	3	0.015
9	1.54E-07	-4.39E-05	4	0.02
9	1.51E-07	-5.19E-05	6	0.03
9	1.50E-07	-5.34E-05	5	0.025
9	1.48E-07	-3.80E-05	5	0.025
9	1.41E-07	-3.80E-05	1	0.005
9	1.48E-07	-5.48E-05	4	0.02
9	1.47E-07	-5.78E-05	3	0.015
9	1.51E-07	-4.39E-05	4	0.02
9	1.52E-07	-5.70E-05	1	0.005
9	1.40E-07	-5.59E-05	7	0.035

9	1.55E-07	-4.99E-05	4	0.02
9	1.54E-07	-5.70E-05	7	0.035
9	1.48E-07	-3.80E-05	9	0.045
9	1.51E-07	-4.75E-05	2	0.01
9	1.60E-07	-5.48E-05	4	0.02
9	1.60E-07	-5.78E-05	7	0.035
9	1.60E-07	-5.78E-05	4	0.02
9	1.55E-07	-5.59E-05	5	0.025
9	1.60E-07	-5.19E-05	1	0.005
9	1.41E-07	-4.39E-05	2	0.01
9	1.44E-07	-5.59E-05	7	0.035
9	1.53E-07	-4.99E-05	8	0.04
9	1.57E-07	-4.75E-05	1	0.005
9	1.54E-07	-5.19E-05	5	0.025
9	1.66E-07	-4.99E-05	3	0.015
9	1.60E-07	-4.99E-05	1	0.005
9	1.62E-07	-5.70E-05	1	0.005
9	1.61E-07	-5.19E-05	5	0.025
9	1.61E-07	-4.39E-05	3	0.015
9	1.93E-07	-5.70E-05	4	0.02
9	1.63E-07	-5.19E-05	4	0.02
9	1.54E-07	-5.48E-05	6	0.03
9	1.62E-07	-4.39E-05	1	0.005
9	1.61E-07	-5.78E-05	3	0.015
9	1.56E-07	-3.80E-05	3	0.015
9	1.68E-07	-5.70E-05	6	0.03
9	1.62E-07	-3.80E-05	4	0.02
9	1.63E-07	-5.59E-05	3	0.015
9	1.63E-07	-5.78E-05	6	0.03
9	1.67E-07	-5.48E-05	3	0.015
9	1.61E-07	-4.39E-05	4	0.02
9	1.57E-07	-5.19E-05	6	0.03
9	1.55E-07	-5.34E-05	5	0.025
9	1.52E-07	-3.80E-05	5	0.025
9	1.47E-07	-3.80E-05	1	0.005
9	1.54E-07	-5.48E-05	4	0.02
9	1.72E-07	-5.78E-05	3	0.015
9	1.53E-07	-4.39E-05	4	0.02
9	1.54E-07	-5.70E-05	1	0.005
9	1.41E-07	-5.59E-05	7	0.035
9	1.50E-07	-4.99E-05	4	0.02
9	1.54E-07	-5.70E-05	7	0.035
9	1.48E-07	-3.80E-05	9	0.045
9	1.47E-07	-4.75E-05	2	0.01

9	1.44E-07	-5.48E-05	4	0.02
9	1.49E-07	-5.78E-05	7	0.035
9	1.46E-07	-5.78E-05	4	0.02
9	1.43E-07	-5.59E-05	5	0.025
9	1.50E-07	-5.19E-05	1	0.005
9	1.40E-07	-4.39E-05	2	0.01
9	1.45E-07	-5.59E-05	7	0.035
9	1.44E-07	-4.99E-05	8	0.04
9	1.48E-07	-4.75E-05	1	0.005
9	1.45E-07	-5.19E-05	5	0.025
9	1.56E-07	-4.99E-05	3	0.015
9	1.50E-07	-4.99E-05	1	0.005
9	1.50E-07	-5.70E-05	1	0.005
9	1.50E-07	-5.19E-05	5	0.025
9	1.52E-07	-4.39E-05	3	0.015
9	1.57E-07	-5.70E-05	4	0.02
9	1.51E-07	-5.19E-05	4	0.02
9	1.44E-07	-5.48E-05	6	0.03
9	1.52E-07	-4.39E-05	1	0.005
9	1.51E-07	-5.78E-05	3	0.015
9	1.47E-07	-3.80E-05	3	0.015
9	1.51E-07	-5.70E-05	6	0.03
9	1.59E-07	-3.80E-05	4	0.02
9	1.55E-07	-5.59E-05	3	Ó.015
9	1.64E-07	-5.78E-05	6	0.03
9	1.54E-07	-5.48E-05	3	0.015
9	1.60E-07	-4.39E-05	4	0.02
9	1.63E-07	-5.19E-05	6	0.03
9	1.49E-07	-5.34E-05	5	0.025
9	1.53E-07	-3.80E-05	5	0.025
9	1.41E-07	-3.80E-05	1	0.005
9	1.50E-07	-5.48E-05	4	0.02
9	1.53E-07	-5.78E-05	3	0.015
9	1.59E-07	-4.39E-05	4	0.02
9	1.80E-07	-5.70E-05	1	0.005
9	1.55E-07	-5.59E-05	7	0.035
9	1.76E-07	-4.99E-05	4	0.02
9	1.79E-07	-5.70E-05	7	0.035
9	1.58E-07	-3.80E-05	9	0.045
9	1.59E-07	-4.75E-05	2	0.01
9	1.56E-07	-5.48E-05	4	0.02
9	1.59E-07	-5.78E-05	7	0.035
9	1.56E-07	-5.78E-05	4	0.02
9	1.53E-07	-5.59E-05	5	0.025

9	1.58E-07	-5.19E-05	1	0.005
9	1.48E-07	-4.39E-05	2	0.01
9	1.56E-07	-5.59E-05	7	0.035
9	1.55E-07	-4.99E-05	8	0.04
9	1.56E-07	-4.75E-05	1	0.005
9	1.55E-07	-5.19E-05	5	0.025
9	1.65E-07	-4.99E-05	3	0.015
9	1.62E-07	-4.99E-05	1	0.005
9	1.59E-07	-5.70E-05	1	0.005
9	1.59E-07	-5.19E-05	5	0.025
9	1.64E-07	-4.39E-05	3	0.015
9	1.72E-07	-5.70E-05	4	0.02
9	1.62E-07	-5.19E-05	4	0.02
9	1.53E-07	-5.48E-05	6	0.03
9	1.65E-07	-4.39E-05	1	0.005
9	1.62E-07	-5.78E-05	3	0.015
9	1.59E-07	-3.80E-05	3	0.015
9	1.64E-07	-5.70E-05	6	0.03
10	1.61E-07	-3.80E-05	4	0.02
10	1.50E-07	-5.59E-05	3	0.015
10	1.51E-07	-5.78E-05	6	0.03
10	1.55E-07	-5.48E-05	3	0.015
10	1.54E-07	-4.39E-05	4	0.02
10	1.53E-07	-5.19E-05	6	0.03
10	1.52E-07	-5.34E-05	5	0.025
10	1.47E-07	-3.80E-05	5	0.025
10	1.41E-07	-3.80E-05	1	0.005
10	1.48E-07	-5.48E-05	4	0.02
10	1.47E-07	-5.78E-05	3	0.015
10	1.53E-07	-4.39E-05	4	0.02
10	1.51E-07	-5.70E-05	1	0.005
10 -	1.40E-07	-5.59E-05	7	0.035
10	1.54E-07	-4.99E-05	4	0.02
10	1.57E-07	-5.70E-05	7	0.035
10	1.48E-07	-3.80E-05	9	0.045
10	1.71E-07	-4.75E-05	2	0.01
10	1.55E-07	-5.48E-05	4	0.02
10	1.59E-07	-5.78E-05	7	0.035
10	1.58E-07	-5.78E-05	4	0.02
10	1.52E-07	-5.59E-05	5	0.025
10	1.53E-07	-5.19E-05	1	0.005
10	1.41E-07	-4.39E-05	2	0.01
10	1.45E-07	-5.59E-05	7	0.035
10	1.57E-07	-4.99E-05	8	0.04

10	1.65E-07	-4.75E-05	1	0.005
10	1.57E-07	-5.19E-05	5	0.025
10	1.70E-07	-4.99E-05	3	0.015
10	1.61E-07	-4.99E-05	1	0.005
10	1.60E-07	-5.70E-05	1	0.005
10	1.59E-07	-5.19E-05	5	0.025
10	1.64E-07	-4.39E-05	3	0.015
10	1.68E-07	-5.70E-05	4	0.02
10	1.66E-07	-5.19E-05	4	0.02
10	1.53E-07	-5.48E-05	6	0.03
10	1.62E-07	-4.39E-05	1	0.005
10	1.61E-07	-5.78E-05	3	0.015
10	1.56E-07	-3.80E-05	3	0.015
10	1.66E-07	-5.70E-05	6	0.03
10	1.61E-07	-3.80E-05	4	0.02
10	1.67E-07	-5.59E-05	3	0.015
10	1.63E-07	-5.78E-05	6	0.03
10	1.68E-07	-5.48E-05	3	0.015
10	1.61E-07	-4.39E-05	4	0.02
10	1.57E-07	-5.19E-05	6	0.03
10	1.76E-07	-5.34E-05	5	0.025
10	1.52E-07	-3.80E-05	5	0.025
10	1.46E-07	-3.80E-05	1	0.005
10	1.55E-07	-5.48E-05	4	0.02
10	1.49E-07	-5.78E-05	3	0.015
10	1.53E-07	-4.39E-05	4	0.02
10	1.53E-07	-5.70E-05	1	0.005
10	1.46E-07	-5.59E-05	7	0.035
10	1.51E-07	-4.99E-05	4	0.02
10	1.55E-07	-5.70E-05	7	0.035
10	1.48E-07	-3.80E-05	9	0.045
10	1.47E-07	-4.75E-05	2	0.01
10	1.44E-07	-5.48E-05	4	0.02
10	1.48E-07	-5.78E-05	7	0.035
10	1.47E-07	-5.78E-05	4	0.02
10	1.42E-07	-5.59E-05	5	0.025
10	1.48E-07	-5.19E-05	1	0.005
10	1.42E-07	-4.39E-05	2	0.01
10	1.68E-07	-5.59E-05	7	0.035
10	1.43E-07	-4.99E-05	8	0.04
10	1.47E-07	-4.75E-05	1	0.005
10	1.45E-07	-5.19E-05	5	0.025
10	1.58E-07	-4.99E-05	3	0.015
10	1.50E-07	-4.99E-05	1	0.005

10	1.51E-07	-5.70E-05	1	0.005
10	1.49E-07	-5.19E-05	5	0.025
10	1.52E-07	-4.39E-05	3	0.015
10	1.57E-07	-5.70E-05	4	0.02
10	1.50E-07	-5.19E-05	4	0.02
10	1.44E-07	-5.48E-05	6	0.03
10	1.52E-07	-4.39E-05	1	0.005
10	1.51E-07	-5.78E-05	3	0.015
10	1.47E-07	-3.80E-05	3	0.015
10	1.51E-07	-5.70E-05	6	0.03
10	1.59E-07	-3.80E-05	4	0.02
10	1.59E-07	-5.59E-05	3	0.015
10	1.67E-07	-5.78E-05	6	0.03
10	1.55E-07	-5.48E-05	3	0.015
10	1.60E-07	-4.39E-05	4	0.02
10	1.66E-07	-5.19E-05	6	0.03
10	1.50E-07	-5.34E-05	5	0.025
10	1.50E-07	-3.80E-05	5	0.025
10	1.42E-07	-3.80E-05	1	0.005
10	1.57E-07	-5.48E-05	4	0.02
10	1.49E-07	-5.78E-05	3	0.015
10	1.62E-07	-4.39E-05	4	0.02
10	1.56E-07	-5.70E-05	1	0.005
10	1.62E-07	-5.59E-05	7	0.035
10	1.81E-07	-4.99E-05	4	0.02
10	1.73E-07	-5.70E-05	. 7	0.035
10	1.58E-07	-3.80E-05	9	0.045
10	1.59E-07	-4.75E-05	2	0.01
10	1.56E-07	-5.48E-05	4	0.02
10	1.59E-07	-5.78E-05	7	0.035
10	1.56E-07	-5.78E-05	4	0.02
10	1.51E-07	-5.59E-05	5	0.025
10	1.58E-07	-5.19E-05	1	0.005
10	1.51E-07	-4.39E-05	2	0.01
10	1.56E-07	-5.59E-05	7	0.035
10	1.51E-07	-4.99E-05	8	0.04
10	1.58E-07	-4.75E-05	1	0.005
10	1.58E-07	-5.19E-05	5	0.025
10	1.65E-07	-4.99E-05	3	0.015
10	1.59E-07	-4.99E-05	1	0.005
10	1.59E-07	-5.70E-05	1	0.005
10	1.59E-07	-5.19E-05	5	0.025
10	1.62E-07	-4.39E-05	3	0.015
10	1.67E-07	-5.70E-05	4	0.02

10	1.62E-07	-5.19E-05	4	0.02
10	1.53E-07	-5.48E-05	6	0.03
10	1.67E-07	-4.39E-05	1	0.005
10	1.65E-07	-5.78E-05	3	0.015
10	1.58E-07	-3.80E-05	3	0.015
10	1.70E-07	-5.70E-05	6	0.03
11	1.50E-07	-3.80E-05	4	0.02
11	1.50E-07	-5.59E-05	3	0.015
11	1.51E-07	-5.78E-05	6	0.03
11	1.56E-07	-5.48E-05	3	0.015
11	1.53E-07	-4.39E-05	4	0.02
11	1.52E-07	-5.19E-05	6	0.03
11	1.50E-07	-5.34E-05	5	0.025
11	1.47E-07	-3.80E-05	5	0.025
11	1.41E-07	-3.80E-05	1	0.005
11	1.49E-07	-5.48E-05	4	0.02
11	1.47E-07	-5.78E-05	3	0.015
11	1.51E-07	-4.39E-05	4	0.02
11	1.52E-07	-5.70E-05	1	0.005
11	1.39E-07	-5.59E-05	7	0.035
11	1.50E-07	-4.99E-05	4	0.02
11	1.55E-07	-5.70E-05	7	0.035
11	1.48E-07	-3.80E-05	9	0.045
11	1.47E-07	-4.75E-05	2	0.01
11	1.54E-07	-5.48E-05	4	0.02
11	1.61E-07	-5.78E-05	7	0.035
11	1.58E-07	-5.78E-05	4	0.02
11	1.54E-07	-5.59E-05	5	0.025
11	1.52E-07	-5.19E-05	1	0.005
11	1.40E-07	-4.39E-05	2	0.01
11	1.44E-07	-5.59E-05	7	0.035
11	1.56E-07	-4.99E-05	8	0.04
11	1.60E-07	-4.75E-05	1	0.005
11	1.56E-07	-5.19E-05	5	0.025
11	1.65E-07	-4.99E-05	3	0.015
11	1.60E-07	-4.99E-05	1	0.005
11	1.58E-07	-5.70E-05	1	0.005
11	1.58E-07	-5.19E-05	5	0.025
11	1.61E-07	-4.39E-05	3	0.015
11	1.66E-07	-5.70E-05	4	0.02
11	1.65E-07	-5.19E-05	4	0.02
11	1.76E-07	-5.48E-05	6	0.03
11	1.60E-07	-4.39E-05	1	0.005
11	1.61E-07	-5.78E-05	3	0.015

11	1.62E-07	-3.80E-05	3	0.015
11	1.66E-07	-5.70E-05	6	0.03
11	1.66E-07	-3.80E-05	4	0.02
11	1.65E-07	-5.59E-05	3	0.015
11	1.64E-07	-5.78E-05	6	0.03
11	1.67E-07	-5.48E-05	3	0.015
11	1.62E-07	-4.39E-05	4	0.02
11	1.62E-07	-5.19E-05	6	0.03
11	1.55E-07	-5.34E-05	5	0.025
11	1.52E-07	-3.80E-05	5	0.025
11	1.49E-07	-3.80E-05	1	0.005
11	1.54E-07	-5.48E-05	4	0.02
11	1.54E-07	-5.78E-05	3	0.015
11	1.53E-07	-4.39E-05	4	0.02
11	1.53E-07	-5.70E-05	1	0.005
11	1.41E-07	-5.59E-05	7	0.035
11	1.51E-07	-4.99E-05	4	0.02
11	1.54E-07	-5.70E-05	7	0.035
11	1.49E-07	-3.80E-05	9	0.045
11	1.48E-07	-4.75E-05	2	0.01
11	1.44E-07	-5.48E-05	4	0.02
11	1.48E-07	-5.78E-05	7	0.035
11	1.50E-07	-5.78E-05	4	0.02
11	1.41E-07	-5.59E-05	5	0.025
11	1.48E-07	-5.19E-05	1	0.005
11	1.40E-07	-4.39E-05	2	0.01
11	1.45E-07	-5.59E-05	7	0.035
11	1.44E-07	-4.99E-05	8	0.04
11	1.47E-07	-4.75E-05	1	0.005
11	1.45E-07	-5.19E-05	5	0.025
11	1.56E-07	-4.99E-05	3	0.015
11	1.50E-07	-4.99E-05	1	0.005
11	1.50E-07	-5.70E-05	1	0.005
11	1.49E-07	-5.19E-05	5	0.025
11	1.52E-07	-4.39E-05	3	0.015
11	1.59E-07	-5.70E-05	4	0.02
11	1.51E-07	-5.19E-05	4	0.02
11	1.43E-07	-5.48E-05	6	0.03
11	1.52E-07	-4.39E-05	1	0.005
11	1.51E-07	-5.78E-05	3	0.015
11	1.48E-07	-3.80E-05	3	0.015
11	1.51E-07	-5.70E-05	6	0.03
11	1.59E-07	-3.80E-05	4	0.02
11	1.55E-07	-5.59E-05	3	0.015

11	1.62E-07	-5.78E-05	6	0.03
11	1.55E-07	-5.48E-05	3	0.015
11	1.59E-07	-4.39E-05	4	0.02
11	1.65E-07	-5.19E-05	6	0.03
11	1.49E-07	-5.34E-05	5	0.025
11	1.57E-07	-3.80E-05	5	0.025
11	1.46E-07	-3.80E-05	1	0.005
11	1.53E-07	-5.48E-05	4	0.02
11	1.49E-07	-5.78E-05	3	0.015
. 11	1.68E-07	-4.39E-05	4	0.02
11	1.56E-07	-5.70E-05	1	0.005
11	1.55E-07	-5.59E-05	7	0.035
11	1.74E-07	-4.99E-05	4	0.02
11	1.83E-07	-5.70E-05	7	0.035
11	1.59E-07	-3.80E-05	9	0.045
11	1.58E-07	-4.75E-05	2	0.01
11	1.54E-07	-5.48E-05	4	0.02
11	1.59E-07	-5.78E-05	7	0.035
11	1.58E-07	-5.78E-05	4	0.02
11	1.53E-07	-5.59E-05	5	0.025
11	1.59E-07	-5.19E-05	1	0.005
11	1.48E-07	-4.39E-05	2	0.01
11	1.58E-07	-5.59E-05	7	0.035
11	1.54E-07	-4.99E-05	8	0.04
11	1.59E-07	-4.75E-05	1	0.005
11	1.55E-07	-5.19E-05	5	0.025
11	1.67E-07	-4.99E-05	3	0.015
11	1.61E-07	-4.99E-05	1	0.005
11	1.59E-07	-5.70E-05	1	0.005
11	1.61E-07	-5.19E-05	5	0.025
11	1.62E-07	-4.39E-05	3	0.015
11	1.65E-07	-5.70E-05	4	0.02
11	1.62E-07	-5.19E-05	4	0.02
11	1.56E-07	-5.48E-05	6	0.03
11	1.65E-07	-4.39E-05	1	0.005
11	1.64E-07	-5.78E-05	3	0.015
11	1.58E-07	-3.80E-05	3	0.015
11	1.64E-07	-5.70E-05	6	0.03
12	1.48E-07	-3.80E-05	4	0.02
12	1.51E-07	-5.59E-05	3	0.015
12	1.50E-07	-5.78E-05	6	0.03
12	1.56E-07	-5.48E-05	3	0.015
12	1.51E-07	-4.39E-05	4	0.02
12	1.50E-07	-5.19E-05	6	0.03

12	1.48E-07	-5.34E-05	5	0.025
12	1.46E-07	-3.80E-05	5	0.025
12	1.41E-07	-3.80E-05	1	0.005
12	1.49E-07	-5.48E-05	4	0.02
12	1.48E-07	-5.78E-05	3	0.015
12	1.53E-07	-4.39E-05	4	0.02
12	1.52E-07	-5.70E-05	1	0.005
12	1.40E-07	-5.59E-05	7	0.035
12	1.52E-07	-4.99E-05	4	0.02
12	1.55E-07	-5.70E-05	7	0.035
12	1.48E-07	-3.80E-05	9	0.045
12	1.51E-07	-4.75E-05	2	0.01
12	1.54E-07	-5.48E-05	4	0.02
12	1.59E-07	-5.78E-05	7	0.035
12	1.56E-07	-5.78E-05	4	0.02
12	1.51E-07	-5.59E-05	5	0.025
12	1.54E-07	-5.19E-05	1	0.005
12	1.41E-07	-4.39E-05	2	0.01
12	1.46E-07	-5.59E-05	7	0.035
12	1.56E-07	-4.99E-05	8	0.04
12	1.55E-07	-4.75E-05	1	0.005
12	1.53E-07	-5.19E-05	5	0.025
12	1.63E-07	-4.99E-05	3	0.015
12	1.62E-07	-4.99E-05	1	0.005
12	1.59E-07	-5.70E-05	1	0.005
12	1.62E-07	-5.19E-05	5	0.025
12	1.62E-07	-4.39E-05	3	0.015
12	1.66E-07	-5.70E-05	4	0.02
12	1.61E-07	-5.19E-05	4	0.02
12	1.53E-07	-5.48E-05	6	0.03
12	1.65E-07	-4.39E-05	1	0.005
12	1.62E-07	-5.78E-05	3	0.015
12	1.59E-07	-3.80E-05	3	0.015
12	1.61E-07	-5.70E-05	6	0.03
12	1.60E-07	-3.80E-05	4	0.02
12	1.64E-07	-5.59E-05	3	0.015
12	1.64E-07	-5.78E-05	6	0.03
12	1.90E-07	-5.48E-05	3	0.015
12	1.61E-07	-4.39E-05	4	0.02
12	1.59E-07	-5.19E-05	6	0.03
12	1.55E-07	-5.34E-05	5	0.025
12	1.51E-07	-3.80E-05	5	0.025
12	1.55E-07	-3.80E-05	1	0.005
12	1.54E-07	-5.48E-05	4	0.02
12	1.52E-07	-5.78E-05	3	0.015
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12	1.53E-07	-4.39E-05	4	0.02
12	1.54E-07	-5.70E-05	1	0.005
12	1.40E-07	-5.59E-05	7	0.035
12	1.51E-07	-4.99E-05	4	0.02
12	1.55E-07	-5.70E-05	7	0.035
12	1.48E-07	-3.80E-05	9	0.045
12	1.47E-07	-4.75E-05	2	0.01
12	1.44E-07	-5.48E-05	4	0.02
12	1.48E-07	-5.78E-05	7	0.035
12	1.47E-07	-5.78E-05	4	0.02
12	1.42E-07	-5.59E-05	5	0.025
12	1.48E-07	-5.19E-05	1	0.005
12	1.41E-07	-4.39E-05	2	0.01
12	1.45E-07	-5.59E-05	7	0.035
12	1.42E-07	-4.99E-05	8	0.04
12	1.47E-07	-4.75E-05	1	0.005
12	1.45E-07	-5.19E-05	5	0.025
12	1.56E-07	-4.99E-05	3	0.015
12	1.51E-07	-4.99E-05	1	0.005
12	1.51E-07	-5.70E-05	1	0.005
12	1.49E-07	-5.19E-05	5	0.025
12	1.52E-07	-4.39E-05	3	0.015
12	1.57E-07	-5.70E-05	4	0.02
12	1.51E-07	-5.19E-05	4	0.02
12	1.43E-07	-5.48E-05	6	0.03
12	1.53E-07	-4.39E-05	1	0.005
12	1.51E-07	-5.78E-05	3	0.015
12	1.47E-07	-3.80E-05	3	0.015
12	1.51E-07	-5.70E-05	6	0.03
12	1.57E-07	-3.80E-05	4	0.02
12	1.56E-07	-5.59E-05	3	0.015
12	1.74E-07	-5.78E-05	6	0.03
12	1.55E-07	-5.48E-05	3	0.015
12	1.70E-07	-4.39E-05	4	0.02
12	1.56E-07	-5.19E-05	6	0.03
12	1.49E-07	-5.34E-05	5	0.025
12	1.56E-07	-3.80E-05	5	0.025
12	1.45E-07	-3.80E-05	1	0.005
12	1.59E-07	-5.48E-05	4	0.02
12	1.49E-07	-5.78E-05	3	0.015
12	1.64E-07	-4.39E-05	4	0.02
12	1.55E-07	-5.70E-05	1	0.005
12	1.60E-07	-5.59E-05	7	0.035

12	1.72E-07	-4.99E-05	4	0.02
12	1.84E-07	-5.70E-05	7	0.035
12	1.59E-07	-3.80E-05	9	0.045
12	1.58E-07	-4.75E-05	2	0.01
12	1.55E-07	-5.48E-05	4	0.02
12	1.58E-07	-5.78E-05	7	0.035
12	1.56E-07	-5.78E-05	4	0.02
12	1.51E-07	-5.59E-05	5	0.025
12	1.62E-07	-5.19E-05	1	0.005
12	1.50E-07	-4.39E-05	2	0.01
12	1.54E-07	-5.59E-05	7	0.035
12	1.53E-07	-4.99E-05	8	0.04
12	1.56E-07	-4.75E-05	1	0.005
12	1.55E-07	-5.19E-05	5	0.025
12	1.67E-07	-4.99E-05	3	0.015
12	1.64E-07	-4.99E-05	1	0.005
12	1.61E-07	-5.70E-05	1	0.005
12	1.62E-07	-5.19E-05	5	0.025
12	1.61E-07	-4.39E-05	3	0.015
12	1.67E-07	-5.70E-05	4	0.02
12	1.67E-07	-5.19E-05	4	0.02
12	1.55E-07	-5.48E-05	6	0.03
12	1.65E-07	-4.39E-05	1	0.005
12	1.64E-07	-5.78E-05	3	0.015
12	1.59E-07	-3.80E-05	3	0.015
12	1.65E-07	-5.70E-05	6	0.03
13	1.48E-07	-3.80E-05	4	0.02
13	1.50E-07	-5.59E-05	3	0.015
13	1.53E-07	-5.78E-05	6	0.03
13	1.56E-07	-5.48E-05	3	0.015
13	1.50E-07	-4.39E-05	4	0.02
13	1.50E-07	-5.19E-05	6	0.03
13	1.47E-07	-5.34E-05	5	0.025
13	1.46E-07	-3.80E-05	5	0.025
13	1.41E-07	-3.80E-05	1	0.005
13	1.48E-07	-5.48E-05	4	0.02
13	1.47E-07	-5.78E-05	3	0.015
13	1.56E-07	-4.39E-05	4	0.02
13	1.52E-07	-5.70E-05	1	0.005
13	1.40E-07	-5.59E-05	7	0.035
13	1.51E-07	-4.99E-05	4	0.02
13	1.55E-07	-5.70E-05	7	0.035
13	1.49E-07	-3.80E-05	9	0.045
13	1.66E-07	-4.75E-05	2	0.01

13	1.58E-07	-5.48E-05	4	0.02
13	1.61E-07	-5.78E-05	7	0.035
13	1.57E-07	-5.78E-05	4	0.02
13	1.48E-07	-5.59E-05	5	0.025
13	1.53E-07	-5.19E-05	1	0.005
13	1.40E-07	-4.39E-05	2	0.01
13	1.50E-07	-5.59E-05	7	0.035
13	1.57E-07	-4.99E-05	8	0.04
13	1.59E-07	-4.75E-05	1	0.005
13	1.52E-07	-5.19E-05	5	0.025
13	1.63E-07	-4.99E-05	3	0.015
13	1.59E-07	-4.99E-05	1	0.005
13	1.61E-07	-5.70E-05	1	0.005
13	1.69E-07	-5.19E-05	5	0.025
13	1.66E-07	-4.39E-05	3	0.015
13	1.66E-07	-5.70E-05	4	0.02
13	1.60E-07	-5.19E-05	4	0.02
13	1.52E-07	-5.48E-05	6	0.03
13	1.63E-07	-4.39E-05	1	0.005
13	1.62E-07	-5.78E-05	3	0.015
13	1.55E-07	-3.80E-05	3	0.015
13	1.63E-07	-5.70E-05	6	0.03
13	1.65E-07	-3.80E-05	4	0.02
13	1.61E-07	-5.59E-05	3	0.015
13	1.68E-07	-5.78E-05	6	0.03
13	1.68E-07	-5.48E-05	3	0.015
13	1.61E-07	-4.39E-05	4	0.02
13	1.57E-07	-5.19E-05	6	0.03
13	1.52E-07	-5.34E-05	5	0.025
13	1.51E-07	-3.80E-05	5	0.025
13	1.49E-07	-3.80E-05	1	0.005
13	1.56E-07	-5.48E-05	4	0.02
13	1.49E-07	-5.78E-05	3	0.015
13	1.53E-07	-4.39E-05	4	0.02
13	1.56E-07	-5.70E-05	1	0.005
13	1.41E-07	-5.59E-05	7	0.035
13	1.51E-07	-4.99E-05	4	0.02
13	1.55E-07	-5.70E-05	7	0.035
13	1.50E-07	-3.80E-05	9	0.045
13	1.47E-07	-4.75E-05	2	0.01
13	1.43E-07	-5.48E-05	4	0.02
13	1.50E-07	-5.78E-05	7	0.035
13	1.46E-07	-5.78E-05	4	0.02
13	1.42E-07	-5.59E-05	5	0.025

13	1.48E-07	-5.19E-05	1	0.005
13	1.41E-07	-4.39E-05	2	0.01
13	1.45E-07	-5.59E-05	7	0.035
13	1.42E-07	-4.99E-05	8	0.04
13	1.47E-07	-4.75E-05	1	0.005
13	1.44E-07	-5.19E-05	5	0.025
13	1.55E-07	-4.99E-05	3	0.015
13	1.56E-07	-4.99E-05	1	0.005
13	1.50E-07	-5.70E-05	1	0.005
13	1.74E-07	-5.19E-05	5	0.025
13	1.52E-07	-4.39E-05	3	0.015
13	1.59E-07	-5.70E-05	4	0.02
13	1.50E-07	-5.19E-05	4	0.02
13	1.43E-07	-5.48E-05	6	0.03
13	1.52E-07	-4.39E-05	1	0.005
13	1.51E-07	-5.78E-05	3	0.015
13	1.47E-07	-3.80E-05	3	0.015
13	1.53E-07	-5.70E-05	6	0.03
13	1.49E-07	-3.80E-05	4	0.02
13	1.55E-07	-5.59E-05	3	0.015
13	1.65E-07	-5.78E-05	6	0.03
13	1.55E-07	-5.48E-05	3	0.015
13	1.79E-07	-4.39E-05	4	0.02
13	1.57E-07	-5.19E-05	6	0.03
13	1.49E-07	-5.34E-05	5	0.025
13	1.59E-07	-3.80E-05	5	0.025
13	1.65E-07	-3.80E-05	1	0.005
13	1.58E-07	-5.48E-05	4	0.02
13	1.50E-07	-5.78E-05	3	0.015
13	1.54E-07	-4.39E-05	4	0.02
13	1.72E-07	-5.70E-05	1	0.005
13	1.57E-07	-5.59E-05	7	0.035
13	1.72E-07	-4.99E-05	4	0.02
13	1.74E-07	-5.70E-05	7	0.035
13	1.61E-07	-3.80E-05	9	0.045
13	1.59E-07	-4.75E-05	2	0.01
13	1.54E-07	-5.48E-05	4	0.02
13	1.61E-07	-5.78E-05	7	0.035
13	1.58E-07	-5.78E-05	4	0.02
13	1.51E-07	-5.59E-05	5	0.025
13	1.61E-07	-5.19E-05	1	0.005
13	1.48E-07	-4.39E-05	2	0.01
13	1.53E-07	-5.59E-05	7	0.035
13	1.53E-07	-4.99E-05	8	0.04

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13	1.81E-07	-4.75E-05	1	0.005
13	1.56E-07	-5.19E-05	5	0.025
13	1.65E-07	-4.99E-05	3	0.015
13	1.64E-07	-4.99E-05	1	0.005
13	1.64E-07	-5.70E-05	1	0.005
13	1.59E-07	-5.19E-05	5	0.025
13	1.62E-07	-4.39E-05	3	0.015
13	1.67E-07	-5.70E-05	4	0.02
13	1.62E-07	-5.19E-05	4	0.02
13	1.54E-07	-5.48E-05	6	0.03
13	1.62E-07	-4.39E-05	1	0.005
13	1.64E-07	-5.78E-05	3	0.015
13	1.58E-07	-3.80E-05	3	0.015
13	1.64E-07	-5.70E-05	6	0.03
14	1.48E-07	-3.80E-05	4	0.02
14	1.50E-07	-5.59E-05	3	0.015
14	1.51E-07	-5.78E-05	6	0.03
14	1.56E-07	-5.48E-05	3	0.015
14	1.50E-07	-4.39E-05	4	0.02
14	1.53E-07	-5.19E-05	6	0.03
14	1.48E-07	-5.34E-05	5	0.025
14	1.48E-07	-3.80E-05	5	0.025
14	1.41E-07	-3.80E-05	1	0.005
14	1.49E-07	~5.48E-05	4	0.02
14	1.47E-07	-5.78E-05	3	0.015
14	1.53E-07	-4.39E-05	4	0.02
14	1.52E-07	-5.70E-05	1	0.005
14	1.40E-07	-5.59E-05	7	0.035
14	1.51E-07	-4.99E-05	4	0.02
14	1.54E-07	-5.70E-05	7	0.035
14	1.48E-07	-3.80E-05	9	0.045
14	1.59E-07	-4.75E-05	2	0.01
14	1.66E-07	-5.48E-05	4	0.02
14	1.60E-07	-5.78E-05	7	0.035
14	1.56E-07	-5.78E-05	4	0.02
14	1.44E-07	-5.59E-05	5	0.025
14	1.59E-07	-5.19E-05	1	0.005
14	1.40E-07	-4.39E-05	2	0.01
14	1.50E-07	-5.59E-05	7	0.035
14	1.54E-07	-4.99E-05	8	0.04
14	1.77E-07	-4.75E-05	1	0.005
14	1.55E-07	-5.19E-05	5	0.025
14	1.64E-07	-4.99E-05	3	0.015
14	1.68E-07	-4.99E-05	1	0.005

14	1.65E-07	-5.70E-05	1	0.005
14	1.59E-07	-5.19E-05	5	0.025
14	1.65E-07	-4.39E-05	3	0.015
14	1.68E-07	-5.70E-05	4	0.02
14	1.60E-07	-5.19E-05	4	0.02
14	1.54E-07	-5.48E-05	6	0.03
14	1.62E-07	-4.39E-05	1	0.005
14	1.85E-07	-5.78E-05	3	0.015
14	1.55E-07	-3.80E-05	3	0.015
14	1.60E-07	-5.70E-05	6	0.03
14	1.62E-07	-3.80E-05	4	0.02
14	1.63E-07	-5.59E-05	3	0.015
14	1.64E-07	-5.78E-05	6	0.03
14	1.67E-07	-5.48E-05	3	0.015
14	1.63E-07	-4.39E-05	4	0.02
14	1.56E-07	-5.19E-05	6	0.03
14	1.48E-07	-5.34E-05	5	0.025
14	1.51E-07	-3.80E-05	5	0.025
14	1.46E-07	-3.80E-05	1	0.005
14	1.55E-07	-5.48E-05	4	0.02
14	1.48E-07	-5.78E-05	3	0.015
14	1.52E-07	-4.39E-05	4	0.02
14	1.58E-07	-5.70E-05	1	0.005
14	1.42E-07	-5.59E-05	7	0.035
14	1.51E-07	-4.99E-05	4	0.02
14	1.55E-07	-5.70E-05	7	0.035
14	1.48E-07	-3.80E-05	9	0.045
14	1.47E-07	-4.75E-05	2	0.01
14	1.44E-07	-5.48E-05	4	0.02
14	1.48E-07	-5.78E-05	7	0.035
14	1.46E-07	-5.78E-05	4	0.02
14	1.42E-07	-5.59E-05	5	0.025
14	1.48E-07	-5.19E-05	1	0.005
14	1.41E-07	-4.39E-05	2	0.01
14	1.45E-07	-5.59E-05	7	0.035
14	1.43E-07	-4.99E-05	8	0.04
14	1.46E-07	-4.75E-05	1	0.005
14	1.45E-07	-5.19E-05	5	0.025
14	1.53E-07	-4.99E-05	3	0.015
14	1.50E-07	-4.99E-05	1	0.005
14	1.50E-07	-5.70E-05	1	0.005
14	1.49E-07	-5.19E-05	5	0.025
14	1.52E-07	-4.39E-05	3	0.015
14	1.59E-07	-5.70E-05	4	0.02

14	1.50E-07	-5.19E-05	4	0.02
14	1.44E-07	-5.48E-05	6	0.03
14	1.52E-07	-4.39E-05	1	0.005
14	1.51E-07	-5.78E-05	3	0.015
14	1.47E-07	-3.80E-05	3	0.015
14	1.55E-07	-5.70E-05	6	0.03
14	1.49E-07	-3.80E-05	4	0.02
14	1.59E-07	-5.59E-05	3	0.015
14	1.72E-07	-5.78E-05	6	0.03
14	1.61E-07	-5.48E-05	3	0.015
14	1.63E-07	-4.39E-05	4	0.02
14	1.52E-07	-5.19E-05	6	0.03
14	1.50E-07	-5.34E-05	5	0.025
14	1.57E-07	-3.80E-05	5	0.025
14	1.43E-07	-3.80E-05	1	0.005
14	1.57E-07	-5.48E-05	4	0.02
14	1.50E-07	-5.78E-05	3	0.015
14	1.67E-07	-4.39E-05	4	0.02
14	1.60E-07	-5.70E-05	1	0.005
14	1.60E-07	-5.59E-05	7	0.035
14	1.74E-07	-4.99E-05	4	0.02
14	2.11E-07	-5.70E-05	7	0.035
14	1.59E-07	-3.80E-05	9	0.045
14	1.58E-07	-4.75E-05	2	0.01
14	1.54E-07	-5.48E-05	4	0.02
14	1.61E-07	-5.78E-05	7	0.035
14	1.56E-07	-5.78E-05	4	0.02
14	1.53E-07	-5.59E-05	5	0.025
14	1.58E-07	-5.19E-05	1	0.005
14	1.50E-07	-4.39E-05	2	0.01
14	1.56E-07	-5.59E-05	7	0.035
14	1.58E-07	-4.99E-05	8	0.04
14	1.58E-07	-4.75E-05	1	0.005
14	1.56E-07	-5.19E-05	5	0.025
14	1.64E-07	-4.99E-05	3	0.015
14	1.59E-07	-4.99E-05	1	0.005
14	1.61E-07	-5.70E-05	1	0.005
14	1.61E-07	-5.19E-05	5	0.025
14	1.62E-07	-4.39E-05	3	0.015
14	1.90E-07	-5.70E-05	4	0.02
14	1.61E-07	-5.19E-05	4	0.02
14	1.54E-07	-5.48E-05	6	0.03
14	1.64E-07	-4.39E-05	1	0.005
14	1.62E-07	-5.78E-05	3	0.015

14	1.58E-07	-3.80E-05	3	0.015
14	1.65E-07	-5.70E-05	6	0.03
15	1.48E-07	-3.80E-05	4	0.02
15	1.57E-07	-5.59E-05	3	0.015
15	1.50E-07	-5.78E-05	6	0.03
15	1.61E-07	-5.48E-05	3	0.015
15	1.58E-07	-4.39E-05	4	0.02
15	1.48E-07	-5.19E-05	6	0.03
15	1.47E-07	-5.34E-05	5	0.025
15	1.46E-07	-3.80E-05	5	0.025
15	1.41E-07	-3.80E-05	1	0.005
15	1.49E-07	-5.48E-05	4	0.02
15	1.48E-07	-5.78E-05	3	0.015
15	1.73E-07	-4.39E-05	4	0.02
15	1.52E-07	-5.70E-05	1	0.005
15	1.39E-07	-5.59E-05	7	0.035
15	1.51E-07	-4.99E-05	4	0.02
15	1.61E-07	-5.70E-05	7	0.035
15	1.48E-07	-3.80E-05	9	0.045
15	1.62E-07	-4.75E-05	2	0.01
15	1.56E-07	-5.48E-05	4	0.02
15	1.61E-07	-5.78E-05	7	0.035
15	1.58E-07	-5.78E-05	4	0.02
15	1.50E-07	-5.59E-05	5	0.025
15	1.54E-07	-5.19E-05	1	0.005
15	1.41E-07	-4.39E-05	2	0.01
15	1.44E-07	-5.59E-05	7	0.035
15	1.60E-07	-4.99E-05	8	0.04
15	1.56E-07	-4.75E-05	1	0.005
15	1.56E-07	-5.19E-05	5	0.025
15	1.63E-07	-4.99E-05	3	0.015
15	1.61E-07	-4.99E-05	1	0.005
15	1.65E-07	-5.70E-05	1	0.005
15	1.60E-07	-5.19E-05	5	0.025
15	1.68E-07	-4.39E-05	3	0.015
15	1.67E-07	-5.70E-05	4	0.02
15	1.63E-07	-5.19E-05	4	0.02
15	1.52E-07	-5.48E-05	6	0.03
15	1.61E-07	-4.39E-05	1	0.005
15	1.62E-07	-5.78E-05	3	0.015
15 .	1.56E-07	-3.80E-05	3	0.015
15	1.64E-07	-5.70E-05	6	0.03
15	1.64E-07	-3.80E-05	4	0.02
15	1.62E-07	-5.59E-05	3	0.015

15	1.63E-07	-5.78E-05	6	0.03
15	1.67E-07	-5.48E-05	3	0.015
15	1.63E-07	-4.39E-05	4	0.02
15	1.56E-07	-5.19E-05	6	0.03
15	1.49E-07	-5.34E-05	5	0.025
15	1.49E-07	-3.80E-05	5	0.025
15	1.48E-07	-3.80E-05	1	0.005
15	1.55E-07	-5.48E-05	4	0.02
15	1.49E-07	-5.78E-05	3	0.015
15	1.52E-07	-4.39E-05	4	0.02
15	1.59E-07	-5.70E-05	1	0.005
15	1.41E-07	-5.59E-05	7	0.035
15	1.50E-07	-4.99E-05	4	0.02
15	1.54E-07	-5.70E-05	7	0.035
15	1.49E-07	-3.80E-05	9	0.045
15	1.47E-07	-4.75E-05	2	0.01
15	1.48E-07	-5.48E-05	4	0.02
15	1.49E-07	-5.78E-05	7	0.035
15	1.46E-07	-5.78E-05	4	0.02
15	1.42E-07	-5.59E-05	5	0.025
15	1.48E-07	-5.19E-05	1	0.005
15	1.42E-07	-4.39E-05	2	0.01
15	1.45E-07	-5.59E-05	7	0.035
15	1.43E-07	-4.99E-05	8	0.04
15	1.47E-07	-4.75E-05	1	0.005
15	1.44E-07	-5.19E-05	5	0.025
15	1.54E-07	-4.99E-05	3	0.015
15	1.50E-07	-4.99E-05	1	0.005
15	1.51E-07	-5.70E-05	1	0.005
15	1.48E-07	-5.19E-05	5	0.025
15	1.51E-07	-4.39E-05	3	0.015
15	1.58E-07	-5.70E-05	4	0.02
15	1.50E-07	-5.19E-05	4	0.02
15	1.44E-07	-5.48E-05	6	0.03
15	1.53E-07	-4.39E-05	1	0.005
15	1.51E-07	-5.78E-05	3	0.015
15	1.47E-07	-3.80E-05	3	0.015
15	1.53E-07	-5.70E-05	6	0.03
15	1.49E-07	-3.80E-05	4	0.02
15	1.52E-07	-5.59E-05	3	0.015
15	1.64E-07	-5.78E-05	6	0.03
15	1.64E-07	-5.48E-05	3	0.015
15	1.61E-07	-4.39E-05	4	0.02
15	1.52E-07	-5.19E-05	6	0.03

15	1.50E-07	-5.34E-05	5	0.025
15	1.52E-07	-3.80E-05	5	0.025
15	1.55E-07	-3.80E-05	1	0.005
15	1.62E-07	-5.48E-05	4	0.02
15	1.58E-07	-5.78E-05	3	0.015
15	1.58E-07	-4.39E-05	4	0.02
15	1.58E-07	-5.70E-05	1	0.005
15	1.61E-07	-5.59E-05	7	0.035
15	1.81E-07	-4.99E-05	4	0.02
15	1.79E-07	-5.70E-05	7	0.035
15	1.58E-07	-3.80E-05	9	0.045
15	1.56E-07	-4.75E-05	2	0.01
15	1.53E-07	-5.48E-05	4	0.02
15	1.62E-07	-5.78E-05	7	0.035
15	1.56E-07	-5.78E-05	4	0.02
15	1.54E-07	-5.59E-05	5	0.025
15	1.59E-07	-5.19E-05	1	0.005
15	1.48E-07	-4.39E-05	2	0.01
15	1.54E-07	-5.59E-05	7	0.035
15	1.53E-07	-4.99E-05	8	0.04
15	1.58E-07	-4.75E-05	1	0.005
15	1.54E-07	-5.19E-05	5	0.025
15	1.65E-07	-4.99E-05	3	0.015
15	1.61E-07	-4.99E-05	1	0.005
15	1.61E-07	-5.70E-05	1	0.005
15	1.61E-07	-5.19E-05	5	0.025
15	1.62E-07	-4.39E-05	3	0.015
15	1.67E-07	-5.70E-05	4	0.02
15	1.65E-07	-5.19E-05	4	0.02
15	1.56E-07	-5.48E-05	6	0.03
15	1.67E-07	-4.39E-05	1	0.005
15	1.62E-07	-5.78E-05	3	0.015
15	1.58E-07	-3.80E-05	3	0.015
15	1.65E-07	-5.70E-05	6	0.03
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## **APPENDIX B**

## Simulation result list 2

Base Station ID	Handover Time	Signal Strength	Load	Load Ratio
1	1.33E-07	-3.80E-05	5	1.11E-01
1	1.32E-07	-3.80E-05	8	1.78E-01
1	1.22E-07	-5.70E-05	6	1.33E-01
1	1.33E-07	-5.59E-05	7	1.56E-01
1	1.56E-07	-4.75E-05	4	8.89E-02
1	1.27E-07	-5.78E-05	4	8.89E-02
1	1.33E-07	-5.48E-05	1	2.22E-02
1	1.31E-07	-5.19E-05	2	4.44E-02
1	1.34E-07	-4.39E-05	9	2.00E-01
1	1.33E-07	-5.59E-05	6	1.33E-01
1	1.28E-07	-4.39E-05	8	1.78E-01
1	1.36E-07	-5.48E-05	7	1.56E-01
1	1.35E-07	-5.70E-05	5	1.11E-01
1	1.37E-07	-5.59E-05	4	8.89E-02
I	1.54E-07	-5.48E-05	5	1.11E-01
1	1.27E-07	-5.59E-05	6	1.33E-01
1	1.42E-07	-5.70E-05	7	1.56E-01
1	1.39E-07	-5.78E-05	1	2.22E-02
1	1.47E-07	-5.34E-05	7	1.56E-01
1	1.30E-07	-4.39E-05	3	6.67E-02
1	1.27E-07	-5.48E-05	2	4.44E-02
1	1.27E-07	-5.34E-05	1	2.22E-02
1	1.35E-07	-5.34E-05	3	6.67E-02
1	1.35E-07	-5.48E-05	7	1.56E-01
1	1.36E-07	-5.34E-05	6	1.33E-01
1	1.26E-07	-5.59E-05	8	1.78E-01
1	9.79E-08	-5.70E-05	2	4.44E-02
1	1.01E-07	-4.99E-05	8	1.78E-01
1	1.01E-07	-5.78E-05	6	1.33E-01
1	1.14E-07	-4.39E-05	7	1.56E-01
1	1.12E-07	-5.34E-05	5	1.11E-01
1	1.12E-07	-4.75E-05	1	2.22E-02
1	1.07E-07	-4.75E-05	6	1.33E-01
1	1.08E-07	-3.80E-05	4	8.89E-02
1	1.04E-07	-5.19E-05	5	1.11E-01
1	9.89E-08	-4.99E-05	5	1.11E-01
1	1.05E-07	-5.59E-05	2	4.44E-02
1	9.60E-08	-3.80E-05	4	8.89E-02
1	1.02E-07	-5.48E-05	4	8.89E-02

1	1.03E-07	-3.80E-05	5	1.11E-01
1	1.04E-07	-3.80E-05	8	1.78E-01
1	8.93E-08	-5.70E-05	6	1.33E-01
1	9.69E-08	-5.59E-05	7	1.56E-01
1	9.83E-08	-4.75E-05	4	8.89E-02
1	9.48E-08	-5.78E-05	4	8.89E-02
1	9.35E-08	-5.48E-05	1	2.22E-02
1	9.39E-08	-5.19E-05	2	4.44E-02
1	9.44E-08	-4.39E-05	9	2.00E-01
1	8.90E-08	-5.59E-05	6	1.33E-01
1	1.03E-07	-4.39E-05	8	1.78E-01
1	1.04E-07	-5.48E-05	7	1.56E-01
1	9.74E-08	-5.70E-05	5	1.11E-01
1	9.95E-08	-5.59E-05	4	8.89E-02
1	1.04E-07	-5.48E-05	5	1.11E-01
1	9.38E-08	-5.59E-05	б	1.33E-01
1	1.12E-07	-5.70E-05	7	1.56E-01
1	9.44E-08	-5.78E-05	1	2.22E-02
1	1.00E-07	-5.34E-05	7	1.56E-01
1	9.92E-08	-4.39E-05	3	6.67E-02
1	9.30E-08	-5.48E-05	2	4.44E-02
1	9.31E-08	-5.34E-05	1	2.22E-02
1	1.14E-07	-5.34E-05	3	6.67E-02
1	9.74E-08	-5.48E-05	7	1.56E-01
1	1.04E-07	-5.34E-05	6	1.33E-01
1	9.91E-08	-5.59E-05	8	1.78E-01
1	9.96E-08	-5.70E-05	2	4.44E-02
1	1.07E-07	-4.99E-05	8	1.78E-01
1	1.03E-07	-5.78E-05	6	1.33E-01
1	1.07E-07	-4.39E-05	7	1.56E-01
1	1.09E-07	-5.34E-05	5	1.11E-01
1	1.10E-07	-4.75E-05	1	2.22E-02
1	1.05E-07	-4.75E-05	6	1.33E-01
1	1.12E-07	-3.80E-05	4	8.89E-02
1	9.92E-08	-5.19E-05	5	1.11E-01
1	1.33E-07	-4.99E-05	5	1.11E-01
1	1.32E-07	-5.59E-05	2	4.44E-02
1	9.80E-08	-3.80E-05	4	8.89E-02
1	1.01E-07	-5.48E-05	4	8.89E-02
1	1.04E-07	-3.80E-05	5	1.11E-01
1	1.02E-07	-3.80E-05	8	1.78E-01
1	9.40E-08	-5.70E-05	6	1.33E-01
1	1.04E-07	-5.59E-05	7	1.56E-01
1	9.56E-08	-4.75E-05	4	8.89E-02

1	9.74E-08	-5.78E-05	4	8.89E-02
1	9.88E-08	-5.48E-05	1	2.22E-02
1	1.01E-07	-5.19E-05	2	4.44E-02
1	9.98E-08	-4.39E-05	9	2.00E-01
1	1.20E-07	-5.59E-05	6	1.33E-01
1	9.85E-08	-4.39E-05	8	1.78E-01
1	1.02E-07	-5.48E-05	7	1.56E-01
1	1.04E-07	-5.70E-05	5	1.11E-01
1	9.69E-08	-5.59E-05	4	8.89E-02
1	1.05E-07	-5.48E-05	5	1.11E-01
1	9.81E-08	-5.59E-05	6	1.33E-01
1	1.04E-07	-5.70E-05	7	1.56E-01
1	1.01E-07	-5.78E-05	1	2.22E-02
1	1.29E-07	-5.34E-05	7	1.56E-01
1	1.00E-07	-4.39E-05	3	6.67E-02
1	9.84E-08	-5.48E-05	2	4.44E-02
1	1.01E-07	-5.34E-05	1	2.22E-02
1	1.13E-07	-5.34E-05	3	6.67E-02
1	1.01E-07	-5.48E-05	7	1.56E-01
1	1.27E-07	-5.34E-05	6	1.33E-01
1	9.68E-08	-5.59E-05	8	1.78E-01
1	9.58E-08	-5.70E-05	2	4.44E-02
1	1.29E-07	-4.99E-05	8	1.78E-01
1	9.92E-08	-5.78E-05	6	1.33E-01
1	1.06E-07	-4.39E-05	7	1.56E-01
1	1.34E-07	-5.34E-05	5	1.11E-01
1	1.08E-07	-4.75E-05	1	2.22E-02
1	1.04E-07	-4.75E-05	6	1.33E-01
1	1.06E-07	-3.80E-05	4	8.89E-02
1	9.76E-08	-5.19E-05	5	1.11E-01
1	9.83E-08	-4.99E-05	5	1.11E-01
1	1.01E-07	-5.59E-05	2	4.44E-02
1	9.71E-08	-3.80E-05	4	8.89E-02
1	1.02E-07	-5.48E-05	4	8.89E-02
1	1.09E-07	-3.80E-05	5	1.11E-01
1	1.09E-07	-3.80E-05	8	1.78E-01
1	9.46E-08	-5.70E-05	6	1.33E-01
1	1.07E-07	-5.59E-05	7	1.56E-01
1	9.79E-08	-4.75E-05	4	8.89E-02
1	9.92E-08	-5.78E-05	4	8.89E-02
1	1.05E-07	-5.48E-05	1	2.22E-02
1	1.01E-07	-5.19E-05	2	4.44E-02
1	1.05E-07	-4.39E-05	9	2.00E-01
1	9.46E-08	-5.59E-05	6	1.33E-01

1	1.01E-07	-4.39E-05	8	1.78E-01
1	1.05E-07	-5.48E-05	7	1.56E-01
1	1.15E-07	-5.70E-05	5	1.11E-01
1	1.04E-07	-5.59E-05	4	8.89E-02
1	1.14E-07	-5.48E-05	5	1.11E-01
1	1.30E-07	-5.59E-05	6	1.33E-01
1	1.08E-07	-5.70E-05	7	1.56E-01
1	1.38E-07	-5.78E-05	1	2.22E-02
1	1.09E-07	-5.34E-05	7	1.56E-01
1	1.04E-07	-4.39E-05	3	6.67E-02
1	9.85E-08	-5.48E-05	2	4.44E-02
1	1.31E-07	-5.34E-05	1	2.22E-02
1	1.35E-07	-5.34E-05	3	6.67E-02
1	1.40E-07	-5.48E-05	7	1.56E-01
1	1.04E-07	-5.34E-05	6	1.33E-01
1	9.85E-08	-5.59E-05	8	1.78E-01
1	9.99E-08	-5.70E-05	2	4.44E-02
1	1.29E-07	-4.99E-05	8	1.78E-01
1	1.03E-07	-5.78E-05	6	1.33E-01
1	1.09E-07	-4.39E-05	7	1.56E-01
1	1.34E-07	-5.34E-05	5	1.11E-01
1	1.10E-07	-4.75E-05	1	2.22E-02
1	1.34E-07	-4.75E-05	6	1.33E-01
1	1.12E-07	-3.80E-05	4	8.89E-02
1	9.85E-08	-5.19E-05	5	1.11E-01
1	1.01E-07	-4.99E-05	5	1.11E-01
1	1.30E-07	-5.59E-05	2	4.44E-02
1	1.00E-07	-3.80E-05	4	8.89E-02
1	1.27E-07	-5.48E-05	4	8.89E-02
2	1.28E-07	-3.80E-05	5	1.11E-01
2	1.31E-07	-3.80E-05	8	1.78E-01
2	1.19E-07	-5.70E-05	6	1.33E-01
2	1.33E-07	-5.59E-05	7	1.56E-01
2	1.32E-07	-4.75E-05	4	8.89E-02
2	1.29E-07	-5.78E-05	4	8.89E-02
2	1.30E-07	-5.48E-05	1	2.22E-02
2	1.29E-07	-5.19E-05	2	4.44E-02
2	1.34E-07	-4.39E-05	9	2.00E-01
2	1.27E-07	-5.59E-05	6	1.33E-01
2	1.27E-07	-4.39E-05	8	1.78E-01
2	1.35E-07	-5.48E-05	7	1.56E-01
2	1.33E-07	-5.70E-05	5	1.11E-01
2	1.49E-07	-5.59E-05	4	8.89E-02
2	1.46E-07	-5.48E-05	5	1.11E-01

2	1.27E-07	-5.59E-05	6	1.33E-01
2	1.38E-07	-5.70E-05	7	1.56E-01
2	1.33E-07	-5.78E-05	1	2.22E-02
2	1.41E-07	-5.34E-05	7	1.56E-01
2	1.28E-07	-4.39E-05	3	6.67E-02
2	1.28E-07	-5.48E-05	2	4.44E-02
2	1.28E-07	-5.34E-05	1	2.22E-02
2	1.36E-07	-5.34E-05	3	6.67E-02
2	1.35E-07	-5.48E-05	7	1.56E-01
2	1.40E-07	-5.34E-05	6	1.33E-01
2	1.25E-07	-5.59E-05	8	1.78E-01
2	1.04E-07	-5.70E-05	2	4.44E-02
2	1.08E-07	-4.99E-05	8	1.78E-01
2	1.01E-07	-5.78E-05	6	1.33E-01
2	1.09E-07	-4.39E-05	7	1.56E-01
2	1.15E-07	-5.34E-05	5	1.11E-01
2	1.09E-07	-4.75E-05	1	2.22E-02
2	1.12E-07	-4.75E-05	6	1.33E-01
2	1.29E-07	-3.80E-05	4	8.89E-02
2	1.07E-07	-5.19E-05	5	1.11E-01
2	9.70E-08	-4.99E-05	5	1.11E-01
2	1.01E-07	-5.59E-05	2	4.44E-02
2	9.66E-08	-3.80E-05	4	8.89E-02
2	1.06E-07	-5.48E-05	4	8.89E-02
2	1.00E-07	-3.80E-05	5	1.11E-01
2	1.03E-07	-3.80E-05	8	1.78E-01
2	8.80E-08	-5.70E-05	6	1.33E-01
2	1.02E-07	-5.59E-05	7	1.56E-01
2	1.01E-07	-4.75E-05	4	8.89E-02
2	9.34E-08	-5.78E-05	4	8.89E-02
2	9.37E-08	-5.48E-05	1	2.22E-02
2	9.42E-08	-5.19E-05	2	4.44E-02
2	9.50E-08	-4.39E-05	9	2.00E-01
2	8.75E-08	-5.59E-05	6	1.33E-01
2	9.27E-08	-4.39E-05	8	1.78E-01
2	1.03E-07	-5.48E-05	7	1.56E-01
2	9.88E-08	-5.70E-05	5	1.11E-01
2	9.02E-08	-5.59E-05	4	8.89E-02
2	1.12E-07	-5.48E-05	5	1.11E-01
2	9.64E-08	-5.59E-05	6	1.33E-01
2	1.12E-07	-5.70E-05	7	1.56E-01
2	9.44E-08	-5.78E-05	1	2.22E-02
2	1.01E-07	-5.34E-05	7	1.56E-01
2	9.87E-08	-4.39E-05	3	6.67E-02

2	9.58E-08	-5.48E-05	2	4.44E-02
2	9.30E-08	-5.34E-05	1	2.22E-02
2	1.02E-07	-5.34E-05	3	6.67E-02
2	9.95E-08	-5.48E-05	7	1.56E-01
2	9.43E-08	-5.34E-05	6	1.33E-01
2	1.02E-07	-5.59E-05	8	1.78E-01
2	9.90E-08	-5.70E-05	2	4.44E-02
2	1.28E-07	-4.99E-05	8	1.78E-01
2	1.07E-07	-5.78E-05	6	1.33E-01
2	1.08E-07	-4.39E-05	7	1.56E-01
2	1.07E-07	-5.34E-05	5	1.11E-01
2	1.08E-07	-4.75E-05	1	2.22E-02
2	1.06E-07	-4.75E-05	6	1.33E-01
2	1.09E-07	-3.80E-05	4	8.89E-02
2	9.79E-08	-5.19E-05	5	1.11E-01
2	1.33E-07	-4.99E-05	5	1.11E-01
2	1.39E-07	-5.59E-05	2	4.44E-02
2	1.03E-07	-3.80E-05	4	8.89E-02
2	9.97E-08	-5.48E-05	4	8.89E-02
2	9.96E-08	-3.80E-05	5	1.11E-01
2	1.03E-07	-3.80E-05	8	1.78E-01
2	9.31E-08	-5.70E-05	6	1.33E-01
2	1.05E-07	-5.59E-05	7	1.56E-01
2	9.66E-08	-4.75E-05	4	8.89E-02
2	9.76E-08	-5.78E-05	4	8.89E-02
2	9.80E-08	-5.48E-05	1	2.22E-02
2	9.96E-08	-5.19E-05	2	4.44E-02
2	9.95E-08	-4.39E-05	9	2.00E-01
2	9.29E-08	-5.59E-05	6	1.33E-01
2	9.80E-08	-4.39E-05	8	1.78E-01
2	1.02E-07	-5.48E-05	7	1.56E-01
2	1.03E-07	-5.70E-05	5	1.11E-01
2	9.55E-08	-5.59E-05	4	8.89E-02
2	1.05E-07	-5.48E-05	5	1.11E-01
2	9.80E-08	-5.59E-05	6	1.33E-01
2	1.05E-07	-5.70E-05	7	1.56E-01
2	1.00E-07	-5.78E-05	1	2.22E-02
2	1.08E-07	-5.34E-05	7	1.56E-01
2	9.95E-08	-4.39E-05	3	6.67E-02
2	9.69E-08	-5.48E-05	2	4.44E-02
2	9.71E-08	-5.34E-05	1	2.22E-02
2	1.02E-07	-5.34E-05	3	6.67E-02
2	1.27E-07	-5.48E-05	7	1.56E-01
2	1.27E-07	-5.34E-05	6	1.33E-01

2	9.71E-08	-5.59E-05	8	1.78E-01
2	9.92E-08	-5.70E-05	2	4.44E-02
2	1.27E-07	-4.99E-05	8	1.78E-01
2	9.91E-08	-5.78E-05	6	1.33E-01
2	1.04E-07	-4.39E-05	7	1.56E-01
2	1.33E-07	-5.34E-05	5	1.11E-01
2	1.06E-07	-4.75E-05	1	2.22E-02
2	1.04E-07	-4.75E-05	6	1.33E-01
2	1.07E-07	-3.80E-05	4	8.89E-02
2	1.22E-07	-5.19E-05	5	1.11E-01
2	9.74E-08	-4.99E-05	5	1.11E-01
2	1.01E-07	-5.59E-05	2	4.44E-02
2	1.23E-07	-3.80E-05	4	8.89E-02
2	9.99E-08	-5.48E-05	4	8.89E-02
2	1.00E-07	-3.80E-05	5	1.11E-01
2	1.13E-07	-3.80E-05	8	1.78E-01
2	9.36E-08	-5.70E-05	6	1.33E-01
2	1.10E-07	-5.59E-05	7	1.56E-01
2	9.93E-08	-4.75E-05	4	8.89E-02
2	9.99E-08	-5.78E-05	4	8.89E-02
2	1.10E-07	-5.48E-05	1	2.22E-02
2	1.03E-07	-5.19E-05	2	4.44E-02
2	1.06E-07	-4.39E-05	9	2.00E-01
2	1.02E-07	-5.59E-05	6	1.33E-01
2	1.05E-07	-4.39E-05	8	1.78E-01
2	1.10E-07	-5.48E-05	7	1.56E-01
2	1.06E-07	-5.70E-05	5	1.11E-01
2	1.04E-07	-5.59E-05	4	8.89E-02
2	1.18E-07	-5.48E-05	5	1.11E-01
2	1.38E-07	-5.59E-05	6	1.33E-01
2	1.13E-07	-5.70E-05	7	1.56E-01
2	1.07E-07	-5.78E-05	1	2.22E-02
2	1.08E-07	-5.34E-05	7	1.56E-01
2	1.04E-07	-4.39E-05	3	6.67E-02
2	9.87E-08	-5.48E-05	2	4.44E-02
2	1.34E-07	-5.34E-05	1	2.22E-02
2	1.54E-07	-5.34E-05	3	6.67E-02
2	1.38E-07	-5.48E-05	7	1.56E-01
2	1.04E-07	-5.34E-05	6	1.33E-01
2	9.82E-08	-5.59E-05	8	1.78E-01
2	1.00E-07	-5.70E-05	2	4.44E-02
2	1.29E-07	-4.99E-05	8	1.78E-01
2	1.02E-07	-5.78E-05	6	1.33E-01
2	1.06E-07	-4.39E-05	7	1.56E-01

2	1.33E-07	-5.34E-05	5	1.11E-01
2	1.11E-07	-4.75E-05	1	2.22E-02
2	1.34E-07	-4.75E-05	6	1.33E-01
2	1.09E-07	-3.80E-05	4	8.89E-02
2	9.95E-08	-5.19E-05	5	1.11E-01
2	1.02E-07	-4.99E-05	5	1.11E-01
2	1.31E-07	-5.59E-05	2	4.44E-02
2	1.01E-07	-3.80E-05	4	8.89E-02
2	1.28E-07	-5.48E-05	4	8.89E-02
3	1.27E-07	-3.80E-05	5	1.11E-01
3	1.32E-07	-3.80E-05	8	1.78E-01
3	1.19E-07	-5.70E-05	6	1.33E-01
3	1.33E-07	-5.59E-05	7	1.56E-01
3	1.45E-07	-4.75E-05	4	8.89E-02
3	1.25E-07	-5.78E-05	4	8.89E-02
3	1.32E-07	-5.48E-05	1	2.22E-02
3	1.30E-07	-5.19E-05	2	4.44E-02
3	1.60E-07	-4.39E-05	9	2.00E-01
3	1.29E-07	-5.59E-05	6	1.33E-01
3	1.35E-07	-4.39E-05	8	1.78E-01
3	1.36E-07	-5.48E-05	7	1.56E-01
3	1.43E-07	-5.70E-05	5	1.11E-01
3	1.40E-07	-5.59E-05	4	8.89E-02
3	1.46E-07	-5.48E-05	5	1.11E-01
3	1.33E-07	-5.59E-05	6	1.33E-01
3	1.37E-07	-5.70E-05	7	1.56E-01
3	1.43E-07	-5.78E-05	1	2.22E-02
3	1.40E-07	-5.34E-05	7	1.56E-01
3	1.28E-07	-4.39E-05	3	6.67E-02
3	1.28E-07	-5.48E-05	2	4.44E-02
3	1.34E-07	-5.34E-05	1	2.22E-02
3	1.33E-07	-5.34E-05	3	6.67E-02
3	1.35E-07	-5.48E-05	7	1.56E-01
3	1.31E-07	-5.34E-05	6	1.33E-01
3	1.25E-07	-5.59E-05	8	1.78E-01
3	9.90E-08	-5.70E-05	2	4.44E-02
3	1.01E-07	-4.99E-05	8	1.78E-01
3	1.01E-07	-5.78E-05	6	1.33E-01
3	1.19E-07	-4.39E-05	7	1.56E-01
3	1.07E-07	-5.34E-05	5	1.11E-01
3	1.12E-07	-4.75E-05	1	2.22E-02
3	1.14E-07	-4.75E-05	6	1.33E-01
3	1.13E-07	-3.80E-05	4	8.89E-02
3	1.15E-07	-5.19E-05	5	1.11E-01

3	9.90E-08	-4.99E-05	5	1.11E-01
3	1.02E-07	-5.59E-05	2	4.44E-02
3	1.03E-07	-3.80E-05	4	8.89E-02
3	1.01E-07	-5.48E-05	4	8.89E-02
3	9.84E-08	-3.80E-05	5	1.11E-01
3	1.04E-07	-3.80E-05	8	1.78E-01
3	8.80E-08	-5.70E-05	6	1.33E-01
3	1.06E-07	-5.59E-05	7	1.56E-01
3	9.12E-08	-4.75E-05	4	8.89E-02
3	9.24E-08	-5.78E-05	4	8.89E-02
3	9.28E-08	-5.48E-05	1	2.22E-02
3	9.47E-08	-5.19E-05	2	4.44E-02
3	9.51E-08	-4.39E-05	9	2.00E-01
3	8.78E-08	-5.59E-05	6	1.33E-01
3	9.74E-08	-4.39E-05	8	1.78E-01
3	1.06E-07	-5.48E-05	7	1.56E-01
3	9.80E-08	-5.70E-05	5	1.11E-01
3	9.67E-08	-5.59E-05	4	8.89E-02
3	1.04E-07	-5.48E-05	5	1.11E-01
3	9.44E-08	-5.59E-05	6	1.33E-01
3	1.04E-07	-5.70E-05	7	1.56E-01
3	1.06E-07	-5.78E-05	1	2.22E-02
3	1.00E-07	-5.34E-05	7	1.56E-01
3	9.98E-08	-4.39E-05	3	6.67E-02
3	9.18E-08	-5.48E-05	2	4.44E-02
3	9.36E-08	-5.34E-05	1	2.22E-02
3	9.94E-08	-5.34E-05	3	6.67E-02
3	9.89E-08	-5.48E-05	7	1.56E-01
3	1.00E-07	-5.34E-05	6	1.33E-01
3	9.78E-08	-5.59E-05	8	1.78E-01
3	9.84E-08	-5.70E-05	2	4.44E-02
3	1.37E-07	-4.99E-05	8	1.78E-01
3	1.05E-07	-5.78E-05	6	1.33E-01
3	1.08E-07	-4.39E-05	7	1.56E-01
3	I.12E-07	-5.34E-05	5	1.11E-01
3	1.07E-07	-4.75E-05	1	2.22E-02
3	1.07E-07	-4.75E-05	6	1.33E-01
3	1.10E-07	-3.80E-05	4	8.89E-02
3	1.00E-07	-5.19E-05	5	1.11E-01
3	1.28E-07	-4.99E-05	5	1.11E-01
3	1.37E-07	-5.59E-05	2	4.44E-02
3	1.21E-07	-3.80E-05	4	8.89E-02
3	1.01E-07	-5.48E-05	4	8.89E-02
3	9.84E-08	-3.80E-05	5	1.11E-01

3	1.01E-07	-3.80E-05	8	1.78E-01
3	9.33E-08	-5.70E-05	6	1.33E-01
3	1.03E-07	-5.59E-05	7	1.56E-01
3	9.55E-08	-4.75E-05	4	8.89E-02
3	9.75E-08	-5.78E-05	4	8.89E-02
3	9.83E-08	-5.48E-05	1	2.22E-02
. 3	1.01E-07	-5.19E-05	2	4.44E-02
3	1.01E-07	-4.39E-05	9	2.00E-01
3	9.26E-08	-5.59E-05	6	1.33E-01
3	9.74E-08	-4.39E-05	8	1.78E-01
3	1.02E-07	-5.48E-05	7	1.56E-01
3	9.91E-08	-5.70E-05	5	1.11E-01
3	9.69E-08	-5.59E-05	4	8.89E-02
3	1.28E-07	-5.48E-05	5	1.11E-01
3	1.16E-07	-5.59E-05	6	1.33E-01
3	1.05E-07	-5.70E-05	7	1.56E-01
3	1.01E-07	-5.78E-05	1	2.22E-02
3	1.05E-07	-5.34E-05	7	1.56E-01
3	9.95E-08	-4.39E-05	3	6.67E-02
3	9.64E-08	-5.48E-05	2	4.44E-02
3	9.78E-08	-5.34E-05	1	2.22E-02
3	1.03E-07	-5.34E-05	3	6.67E-02
3	1.29E-07	-5.48E-05	7	1.56E-01
3	1.27E-07	-5.34E-05	6	1.33E-01
3	9.70E-08	-5.59E-05	8	1.78E-01
3	9.76E-08	-5.70E-05	2	4.44E-02
3	1.27E-07	-4.99E-05	8	1.78E-01
3	9.96E-08	-5.78E-05	6	1.33E-01
3	1.05E-07	-4.39E-05	7	1.56E-01
3	1.31E-07	-5.34E-05	5	1.11E-01
3	1.05E-07	-4.75E-05	1	2.22E-02
3	1.28E-07	-4.75E-05	6	1.33E-01
3	1.07E-07	-3.80E-05	4	8.89E-02
3	1.21E-07	-5.19E-05	5	1.11E-01
3	9.88E-08	-4.99E-05	5	1.11E-01
3	1.02E-07	-5.59E-05	2	4.44E-02
3	1.23E-07	-3.80E-05	4	8.89E-02
3	1.01E-07	-5.48E-05	4	8.89E-02
3	1.03E-07	-3.80E-05	5	1.11E-01
3	1.07E-07	-3.80E-05	8	1.78E-01
3	9.60E-08	-5.70E-05	6	1.33E-01
3	1.10E-07	-5.59E-05	7	1.56E-01
3	9.90E-08	-4.75E-05	4	8.89E-02
3	9.90E-08	-5.78E-05	4	8.89E-02

3	1.06E-07	-5.48E-05	1	2.22E-02
3	1.03E-07	-5.19E-05	2	4.44E-02
3	1.02E-07	-4.39E-05	9	2.00E-01
3	9.85E-08	-5.59E-05	6	1.33E-01
3	1.01E-07	-4.39E-05	8	1.78E-01
3	1.04E-07	-5.48E-05	7	1.56E-01
3	1.06E-07	-5.70E-05	5	1.11E-01
3	1.05E-07	-5.59E-05	4	8.89E-02
3	1.14E-07	-5.48E-05	5	1.11E-01
3	1.27E-07	-5.59E-05	6	1.33E-01
3	1.11E-07	-5.70E-05	7	1.56E-01
3	1.02E-07	-5.78E-05	1	2.22E-02
3	1.14E-07	-5.34E-05	7	1.56E-01
3	1.07E-07	-4.39E-05	3	6.67E-02
3	1.02E-07	-5.48E-05	2	4.44E-02
3	1.43E-07	-5.34E-05	1	2.22E-02
3	1.04E-07	-5.34E-05	3	6.67E-02
3	1.32E-07	-5.48E-05	7	1.56E-01
3	1.02E-07	-5.34E-05	6	1.33E-01
3	1.03E-07	-5.59E-05	8	1.78E-01
3	1.01E-07	-5.70E-05	2	4.44E-02
3	1.29E-07	-4.99E-05	8	1.78E-01
3	1.04E-07	-5.78E-05	6	1.33E-01
3	1.09E-07	-4.39E-05	7	1.56E-01
3	1.20E-07	-5.34E-05	5	1.11E-01
3	1.13E-07	-4.75E-05	1	2.22E-02
3	1.35E-07	-4.75E-05	6	1.33E-01
3	1.10E-07	-3.80E-05	4	8.89E-02
3	9.89E-08	-5.19E-05	5	1.11E-01
3	1.00E-07	-4.99E-05	5	1.11E-01
3	1.37E-07	-5.59E-05	2	4.44E-02
3	1.01E-07	-3.80E-05	4	8.89E-02
3	1.27E-07	-5.48E-05	4	8.89E-02
4	1.27E-07	-3.80E-05	5	1.11E-01
4	1.31E-07	-3.80E-05	8	1.78E-01
4	1.19E-07	-5.70E-05	6	1.33E-01
4	1.34E-07	-5.59E-05	7	1.56E-01
4	1.27E-07	-4.75E-05	4	8.89E-02
4	1.25E-07	-5.78E-05	4	8.89E-02
4	1.28E-07	-5.48E-05	1	2.22E-02
4	1.31E-07	-5.19E-05	2	4.44E-02
4	1.30E-07	-4.39E-05	9	2.00E-01
4	1.34E-07	-5.59E-05	6	1.33E-01
4	1.37E-07	-4.39E-05	8	1.78E-01

4	1.43E-07	-5.48E-05	7	1.56E-01
4	1.38E-07	-5.70E-05	5	1.11E-01
4	1.35E-07	-5.59E-05	4	8.89E-02
4	1.50E-07	-5.48E-05	5	1.11E-01
4	1.39E-07	-5.59E-05	6	1.33E-01
4	1.70E-07	-5.70E-05	7	1.56E-01
4	1.38E-07	-5.78E-05	1	2.22E-02
4	1.44E-07	-5.34E-05	7	1.56E-01
4	1.31E-07	-4.39E-05	3	6.67E-02
4	1.28E-07	-5.48E-05	2	4.44E-02
4	1.28E-07	-5.34E-05	1	2.22E-02
4	1.30E-07	-5.34E-05	3	6.67E-02
4	1.34E-07	-5.48E-05	7	1.56E-01
4	1.29E-07	-5.34E-05	6	1.33E-01
4	1.16E-07	-5.59E-05	8	1.78E-01
4	1.04E-07	-5.70E-05	2	4.44E-02
4	1.01E-07	-4.99E-05	8	1.78E-01
4	1.07E-07	-5.78E-05	6	1.33E-01
4	1.13E-07	-4.39E-05	7	1.56E-01
4	1.12E-07	-5.34E-05	5	1.11E-01
4	1.09E-07	-4.75E-05	1	2.22E-02
4	1.11E-07	-4.75E-05	6	1.33E-01
4	1.07E-07	-3.80E-05	4	8.89E-02
4	1.03E-07	-5.19E-05	5	1.11E-01
4	9.95E-08	-4.99E-05	5	1.11E-01
4	1.02E-07	-5.59E-05	2	4.44E-02
4	1.01E-07	-3.80E-05	4	8.89E-02
4	9.99E-08	-5.48E-05	4	8.89E-02
4	9.85E-08	-3.80E-05	5	1.11E-01
4	1.04E-07	-3.80E-05	8	1.78E-01
4	8.79E-08	-5.70E-05	6	1.33E-01
4	1.00E-07	-5.59E-05	7	1.56E-01
4	9.11E-08	-4.75E-05	4	8.89E-02
4	9.27E-08	-5.78E-05	4	8.89E-02
4	9.35E-08	-5.48E-05	1	2.22E-02
4	9.38E-08	-5.19E-05	2	4.44E-02
4	9.68E-08	-4.39E-05	9	2.00E-01
4	8.83E-08	-5.59E-05	6	1.33E-01
4	9.50E-08	-4.39E-05	8	1.78E-01
4	1.01E-07	-5.48E-05	7	1.56E-01
4	9.93E-08	-5.70E-05	5	1.11E-01
4	9.62E-08	-5.59E-05	4	8.89E-02
4	1.02E-07	-5.48E-05	5	1.11E-01
4	9.35E-08	-5.59E-05	6	1.33E-01

4	1.07E-07	-5.70E-05	7	1.56E-01
4	1.01E-07	-5.78E-05	1	2.22E-02
4	1.00E-07	-5.34E-05	7	1.56E-01
4	9.95E-08	-4.39E-05	3	6.67E-02
4	9.17E-08	-5.48E-05	2	4.44E-02
4	9.32E-08	-5.34E-05	1	2.22E-02
4	9.86E-08	-5.34E-05	3	6.67E-02
4	9.82E-08	-5.48E-05	7	1.56E-01
4	1.02E-07	-5.34E-05	6	1.33E-01
4	9.88E-08	-5.59E-05	8	1.78E-01
4	9.73E-08	-5.70E-05	2	4.44E-02
4	1.41E-07	-4.99E-05	8	1.78E-01
4	1.06E-07	-5.78E-05	6	1.33E-01
4	1.11E-07	-4.39E-05	7	1.56E-01
4	1.06E-07	-5.34E-05	5	1.11E-01
4	1.09E-07	-4.75E-05	1	2.22E-02
4	1.07E-07	-4.75E-05	6	1.33E-01
4	1.07E-07	-3.80E-05	4	8.89E-02
4	9.83E-08	-5.19E-05	5	1.11E-01
4	1.27E-07	-4.99E-05	5	1.11E-01
4	1.36E-07	-5.59E-05	2	4.44E-02
4	1.25E-07	-3.80E-05	4	8.89E-02
4	1.01E-07	-5.48E-05	4	8.89E-02
4	9.87E-08	-3.80E-05	5	1.11E-01
4	1.02E-07	-3.80E-05	8	1.78E-01
4	9.36E-08	-5.70E-05	6	1.33E-01
4	1.05E-07	-5.59E-05	7	1.56E-01
4	9.67E-08	-4.75E-05	4	8.89E-02
4	1.00E-07	-5.78E-05	4	8.89E-02
4	9.82E-08	-5.48E-05	1	2.22E-02
4	9.91E-08	-5.19E-05	2	4.44E-02
4	1.00E-07	-4.39E-05	9	2.00E-01
4	9.30E-08	-5.59E-05	6	1.33E-01
4	9.71E-08	-4.39E-05	8	1.78E-01
4	1.00E-07	-5.48E-05	7	1.56E-01
4	1.00E-07	-5.70E-05	5	1.11E-01
4	9.67E-08	-5.59E-05	4	8.89E-02
4	1.35E-07	-5.48E-05	5	1.11E-01
4	1.26E-07	-5.59E-05	6	1.33E-01
4	1.05E-07	-5.70E-05	7	1.56E-01
4	1.00E-07	-5.78E-05	1	2.22E-02
4	1.25E-07	-5.34E-05	7	1.56E-01
4	9.88E-08	-4.39E-05	3	6.67E-02
4	1.11E-07	-5.48E-05	2	4.44E-02

4	9.83E-08	-5.34E-05	1	2.22E-02
4	1.01E-07	-5.34E-05	3	6.67E-02
4	1.28E-07	-5.48E-05	7	1.56E-01
4	1.26E-07	-5.34E-05	6	1.33E-01
4	9.67E-08	-5.59E-05	8	1.78E-01
4	9.68E-08	-5.70E-05	2	4.44E-02
4	1.31E-07	-4.99E-05	8	1.78E-01
4	9.96E-08	-5.78E-05	6	1.33E-01
4	1.23E-07	-4.39E-05	7	1.56E-01
4	1.31E-07	-5.34E-05	5	1.11E-01
4	1.11E-07	-4.75E-05	1	2.22E-02
. 4	1.32E-07	-4.75E-05	6	1.33E-01
. 4	1.06E-07	-3.80E-05	4	8.89E-02
4	1.22E-07	-5.19E-05	5	1.11E-01
4	9.79E-08	-4.99E-05	5	1.11E-01
4	1.00E-07	-5.59E-05	2	4.44E-02
4	1.24E-07	-3.80E-05	4	8.89E-02
4	1.01E-07	-5.48E-05	4	8.89E-02
4	1.03E-07	-3.80E-05	5	1.11E-01
4	1.04E-07	-3.80E-05	8	1.78E-01
4	9.55E-08	-5.70E-05	6	1.33E-01
4	1.14E-07	-5.59E-05	7	1.56E-01
4	9.76E-08	-4.75E-05	4	8.89E-02
4	9.79E-08	-5.78E-05	4	8.89E-02
4	1.04E-07	-5.48E-05	1	2.22E-02
4	1.06E-07	-5.19E-05	2	4.44E-02
4	1.00E-07	-4.39E-05	9	2.00E-01
4	1.24E-07	-5.59E-05	6	1.33E-01
4	1.07E-07	-4.39E-05	8	1.78E-01
4	1.04E-07	-5.48E-05	7	1.56E-01
4	1.09E-07	-5.70E-05	5	1.11E-01
4	1.02E-07	-5.59E-05	4	8.89E-02
4	1.13E-07	-5.48E-05	5	1.11E-01
4	1.29E-07	-5.59E-05	6	1.33E-01
4	1.14E-07	-5.70E-05	7	1.56E-01
4	1.02E-07	-5.78E-05	1	2.22E-02
4	1.12E-07	-5.34E-05	7	1.56E-01
4	1.02E-07	-4.39E-05	3	6.67E-02
4	1.05E-07	-5.48E-05	2	4.44E-02
4	1.45E-07	-5.34E-05	1	2.22E-02
4	1.05E-07	-5.34E-05	3	6.67E-02
4	1.31E-07	-5.48E-05	7	1.56E-01
4	1.03E-07	-5.34E-05	6	1.33E-01
4	9.72E-08	-5.59E-05	8	1.78E-01

4	1.05E-07	-5.70E-05	2	4.44E-02
4	1.28E-07	-4.99E-05	8	1.78E-01
4	1.01E-07	-5.78E-05	6	1.33E-01
4	1.06E-07	-4.39E-05	7	1.56E-01
4	1.06E-07	-5.34E-05	5	1.11E-01
4	1.12E-07	-4.75E-05	1	2.22E-02
4	1.34E-07	-4.75E-05	6	1.33E-01
4	1.09E-07	-3.80E-05	4	8.89E-02
4	1.04E-07	-5.19E-05	5	1.11E-01
4	1.06E-07	-4.99E-05	5	1.11E-01
4	1.30E-07	-5.59E-05	2	4.44E-02
4	1.00E-07	-3.80E-05	4	8.89E-02
4	1.28E-07	-5.48E-05	4	8.89E-02
5	1.28E-07	-3.80E-05	5	1.11E-01
5	1.31E-07	-3.80E-05	8	1.78E-01
5	1.19E-07	-5.70E-05	6	1.33E-01
5	1.32E-07	-5.59E-05	7	1.56E-01
5	1.29E-07	-4.75E-05	4	8.89E-02
5	1.24E-07	-5.78E-05	4	8.89E-02
5	1.28E-07	-5.48E-05	1	2.22E-02
5	1.30E-07	-5.19E-05	2	4.44E-02
5	1.30E-07	-4.39E-05	9	2.00E-01
5	1.23E-07	-5.59E-05	6	1.33E-01
5	1.27E-07	-4.39E-05	8	1.78E-01
5	1.36E-07	-5.48E-05	7	1.56E-01
5	1.36E-07	-5.70E-05	5	1.11E-01
5	1.49E-07	-5.59E-05	4	8.89E-02
5	1.42E-07	-5.48E-05	5	1.11E-01
5	1.50E-07	-5.59E-05	6	1.33E-01
5	1.41E-07	-5.70E-05	7	1.56E-01
5	1.30E-07	-5.78E-05	1	2.22E-02
5	1.53E-07	-5.34E-05	7	1.56E-01
5	1.29E-07	-4.39E-05	3	6.67E-02
5	1.28E-07	-5.48E-05	2	4.44E-02
5	1.30E-07	-5.34E-05	1	2.22E-02
5	1.31E-07	-5.34E-05	3	6.67E-02
5	1.36E-07	-5.48E-05	7	1.56E-01
5	1.29E-07	-5.34E-05	6	1.33E-01
5	9.93E-08	-5.59E-05	8	1.78E-01
5	9.93E-08	-5.70E-05	2	4.44E-02
5	1.07E-07	-4.99E-05	8	1.78E-01
5	1.07E-07	-5.78E-05	6	1.33E-01
5	1.09E-07	-4.39E-05	7	1.56E-01
5	1.10E-07	-5.34E-05	5	1.11E-01

5     1.12E-07     -4.75E-05     6     1.33E-01       5     1.09E-07     -3.80E-05     5     1.11E-01       5     9.59E-08     -5.19E-05     5     1.11E-01       5     1.00E-07     -4.99E-05     5     1.11E-01       5     1.00E-07     -5.59E-05     2     4.44E-02       5     1.00E-07     -5.59E-05     4     8.89E-02       5     1.00E-07     -5.48E-05     4     8.89E-02       5     1.03E-07     -3.80E-05     5     1.11E-01       5     1.03E-07     -3.80E-05     8     1.78E-01       5     1.03E-07     -5.59E-05     6     1.33E-01       5     1.03E-07     -5.59E-05     6     8.89E-02       5     1.03E-07     -5.58E-05     4     8.89E-02       5     9.54E-08     -5.78E-05     4     8.89E-02       5     9.21E-08     -5.58E-05     6     1.33E-01       5     9.73E-08     -5.59E-05     4     8.89E-02	5	1.38E-07	-4.75E-05	1	2.22E-02
5     109E-07     -3.80E-05     4     8.89E-02       5     9.959E-08     -5.19E-05     5     1.11E-01       5     1.00E-07     -4.99E-05     5     1.11E-01       5     1.00E-07     -5.59E-05     2     4.44E-02       5     9.89F-08     -3.80E-05     4     8.89E-02       5     1.00E-07     -5.48E-05     4     8.89E-02       5     1.00E-07     -5.48E-05     4     8.89E-02       5     1.00E-07     -5.48E-05     8     1.11E-01       5     1.00E-07     -5.58E-05     5     1.33E-01       5     9.26E-08     -5.78E-05     6     1.33E-01       5     9.73E-08     -5.78E-05     4     8.89E-02       5     9.73E-08     -5.78E-05     4     8.89E-02       5     9.73E-08     -5.78E-05     6     1.33E-01       5     9.47E-08     -5.78E-05     6     1.33E-01       5     9.73E-08     -5.59E-05     6     1.33E-01	5	1.12E-07	-4.75E-05	6	1.33E-01
5     9.59E-08     -5.19E-05     5     1.11E-01       5     1.00E-07     -4.59E-05     2     4.44E-02       5     9.89E-08     -3.80E-05     4     8.89E-02       5     1.00E-07     -5.48E-05     4     8.89E-02       5     1.00E-07     -5.48E-05     4     8.89E-02       5     1.00E-07     -3.80E-05     8     1.11E-01       5     1.03E-07     -3.80E-05     8     1.11E-01       5     1.03E-07     -3.80E-05     6     1.33E-01       5     1.01E-07     -5.59E-05     7     1.56E-01       5     9.54E-08     -5.78E-05     4     8.89E-02       5     9.25E-08     -5.48E-05     1     2.22E-02       5     9.43E-08     -5.19E-05     6     1.33E-01       5     9.73E-08     -5.59E-05     6     1.33E-01       5     9.73E-08     -5.59E-05     7     1.56E-01       5     9.73E-08     -5.59E-05     6     1.33E-01	5	1.09E-07	-3.80E-05	4	8.89E-02
5     1.00E-07     -4.99E-05     5     1.11E-01       5     1.04E-07     -5.59E-05     2     4.44E-02       5     9.89E-08     -3.80E-05     4     8.89E-02       5     1.00E-07     -5.48E-05     4     8.89E-02       5     1.03E-07     -3.80E-05     8     1.11E-01       5     1.03E-07     -3.80E-05     8     1.78E-01       5     1.03E-07     -5.59E-05     7     1.56E-01       5     9.54E-08     -5.78E-05     4     8.89E-02       5     9.21E-08     -5.48E-05     1     2.22E-02       5     9.25E-08     -5.48E-05     1     2.22E-02       5     9.25E-08     -5.48E-05     7     1.56E-01       5     9.25E-08     -5.98E-05     6     1.33E-01       5     9.73E-08     -5.98E-05     6     1.33E-01       5     9.79E-08     -5.79E-05     5     1.11E-01       5     9.94E-08     -5.99E-05     6     1.33E-01	5	9.59E-08	-5.19E-05	5	1.11E-01
5     1.04E-07     -5.59E-05     2     4.44E-02       5     9.89E-08     -3.80E-05     4     8.89E-02       5     1.00E-07     -5.48E-05     4     8.89E-02       5     1.03E-07     -5.48E-05     5     1.11E-01       5     1.03E-07     -3.80E-05     8     1.77E-01       5     1.03E-07     -5.59E-05     7     1.56E-01       5     9.21E-08     -5.78E-05     4     8.89E-02       5     9.21E-08     -5.78E-05     6     1.33E-01       5     9.21E-08     -5.19E-05     6     1.33E-01       5     9.73E-08     -5.59E-05     6     1.33E-01       5     9.79E-08     -5.59E-05     6     1.33E-01	5	1.00E-07	-4.99E-05	5	1.11E-01
5     9,89E-08     -3,80E-05     4     8,89E-02       5     1,00E-07     -5,48E-05     4     8,89E-02       5     1,03E-07     -3,80E-05     8     1,11E-01       5     1,03E-07     -3,80E-05     8     1,33E-01       5     1,01E-07     -5,59E-05     7     1,56E-01       5     9,54E-08     -4,75E-05     4     8,89E-02       5     9,21E-08     -5,78E-05     4     8,89E-02       5     9,21E-08     -5,78E-05     4     8,89E-02       5     9,21E-08     -5,78E-05     4     8,89E-02       5     9,24E-08     -5,8E-05     4     4,4E-02       5     9,25E-08     -5,39E-05     6     1,33E-01       5     9,78E-08     -5,59E-05     6     1,33E-01       5     9,79E-08     -5,59E-05     6     1,33E-01       5     9,79E-08     -5,59E-05     4     8,89E-02       5     1,05E-07     -5,48E-05     5     1,11E-01 <t< td=""><td>5</td><td>1.04E-07</td><td>-5.59E-05</td><td>2</td><td>4.44E-02</td></t<>	5	1.04E-07	-5.59E-05	2	4.44E-02
S     1.00E-07     -5.48E-05     4     8.89E-02       5     1.03E-07     -3.80E-05     5     1.11E-01       5     1.03E-07     -3.80E-05     8     1.78E-01       5     8.87E-08     5.70E-05     6     1.35E-01       5     1.01E-07     -5.59E-05     7     1.56E-01       5     9.54E-08     -4.75E-05     4     8.89E-02       5     9.25E-08     -5.78E-05     2     4.44E-02       5     9.25E-08     -5.48E-05     9     2.00E-01       5     9.73E-08     -4.39E-05     9     2.00E-01       5     9.73E-08     -4.39E-05     9     2.00E-01       5     9.73E-08     -5.39E-05     6     1.33E-01       5     9.73E-08     -5.59E-05     8     1.78E-01       5     9.79E-08     -5.59E-05     4     8.89E-02       5     9.79E-08     -5.59E-05     4     8.89E-02       5     9.42E-08     -5.59E-05     6     1.33E-01  <	5	9.89E-08	-3.80E-05	4	8.89E-02
S     1.03E-07     -3.80E-05     S     1.11E-01       S     1.03E-07     -3.80E-05     8     1.78E-01       S     8.87E-08     -5.70E-05     7     1.56E-01       S     1.01E-07     -5.59E-05     7     4.85E-02       S     9.54E-08     -4.75E-05     4     8.89E-02       S     9.21E-08     -5.78E-05     4     8.89E-02       S     9.23E-08     -5.78E-05     4     8.89E-02       S     9.23E-08     -5.78E-05     2     4.44E-02       S     9.43E-08     -5.79E-05     2     4.44E-02       S     9.43E-08     -5.79E-05     6     1.33E-01       S     9.45E-08     -5.59E-05     6     1.33E-01       S     9.94E-08     -5.59E-05     4     8.89E-02       S     9.94E-08     -5.59E-05     4     8.89E-02       S     9.94E-08     -5.59E-05     6     1.33E-01       S     9.94E-08     -5.59E-05     6     1.33E-01	5	1.00E-07	-5.48E-05	4	8.89E-02
5     1.03E-07     -3.80E-05     8     1.78E-01       5     8.87E-08     -5.70E-05     6     1.33E-01       5     1.01E-07     -5.59E-05     7     1.56E-01       5     9.54E-08     -4.75E-05     4     8.89E-02       5     9.23E-08     -5.78E-05     4     8.89E-02       5     9.23E-08     -5.48E-05     1     2.22E-02       5     9.23E-08     -5.19E-05     2     4.44E-02       5     9.43E-08     -5.19E-05     6     1.33E-01       5     9.43E-08     -5.59E-05     6     1.33E-01       5     9.44E-08     -5.59E-05     6     1.33E-01       5     9.56E-08     -4.39E-05     8     1.78E-01       5     9.54E-08     -5.59E-05     4     8.89E-02       5     9.49E-08     -5.59E-05     4     8.89E-01       5     9.54E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     7     1.56E-01	5	1.03E-07	-3.80E-05	5	1.11E-01
5     8.87E-08     -5.70E-05     6     1.33E-01       5     1.01E-07     -5.59E-05     7     1.56E-01       5     9.54E-08     -4.75E-05     4     8.89E-02       5     9.23E-08     -5.78E-05     4     8.89E-02       5     9.23E-08     -5.48E-05     1     2.22E-02       5     9.43E-08     -5.59E-05     6     1.33E-01       5     9.73E-08     -4.39E-05     8     1.78E-01       5     9.73E-08     -5.59E-05     6     1.33E-01       5     9.74E-08     -5.59E-05     6     1.33E-01       5     9.94E-08     -5.59E-05     5     1.11E-01       5     9.49E-08     -5.59E-05     6     1.33E-01       5     9.49E-08     -5.59E-05     7     1.56E-01       5     1.05E-07     -5.34E-05     1     1.22E-02       5     1.05E-07     -5.34E-05     1     2.22E-02       5     1.05E-07     -5.34E-05     1     2.22E-02	5	1.03E-07	-3.80E-05	8	1.78E-01
5     1.01E-07     -5.59E-05     7     1.56E-01       5     9.54E-08     -4.75E-05     4     8.89E-02       5     9.21E-08     -5.78E-05     4     8.89E-02       5     9.25E-08     -5.48E-05     1     2.22E-02       5     9.43E-08     -5.19E-05     2     4.44E-02       5     9.73E-08     -4.39E-05     6     1.33E-01       5     9.75E-08     -4.39E-05     8     1.78E-01       5     9.75E-08     -4.39E-05     8     1.78E-01       5     9.75E-08     -4.39E-05     8     1.78E-01       5     9.94E-08     -5.58E-05     5     1.11E-01       5     9.94E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     1     1.3E-01       5     9.94E-08     -5.59E-05     6     1.33E-01       5     1.05E-07     -5.48E-05     1     2.22E-02       5     1.00E-07     -5.34E-05     1     2.22E-02  <	5	8.87E-08	-5.70E-05	6	1.33E-01
5     9.54E-08     -4.75E-05     4     8.89E-02       5     9.21E-08     5.78E-05     4     8.89E-02       5     9.25E-08     -5.48E-05     1     2.22E-02       5     9.43E-08     -5.19E-05     2     4.44E-02       5     9.73E-08     -4.39E-05     9     2.00E-01       5     9.75E-08     -5.59E-05     6     1.33E-01       5     9.56E-08     -4.39E-05     8     1.78E-01       5     9.56E-08     -5.59E-05     6     1.33E-01       5     9.94E-08     -5.48E-05     7     1.56E-01       5     9.49E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     5     1.11E-01       5     9.49E-08     -5.59E-05     6     1.33E-01       5     1.05E-07     -5.70E-05     7     1.56E-01       5     9.42E-08     -5.59E-05     7     1.56E-01       5     1.05E-07     -5.34E-05     7     1.56E-01  <	5	1.01E-07	-5.59E-05	7	1.56E-01
5     9.21E-08     -5.78E-05     4     8.89E-02       5     9.25E-08     -5.48E-05     1     2.22E-02       5     9.43B-08     -5.19E-05     2     4.44E-02       5     9.73E-08     -4.39E-05     9     2.00E-01       5     8.75E-08     -5.59E-05     6     1.33E-01       5     9.56E-08     -4.39E-05     8     1.78E-01       5     9.56E-08     -5.59E-05     6     1.33E-01       5     9.94E-08     -5.59E-05     4     8.89E-02       5     9.94E-08     -5.59E-05     4     8.89E-02       5     9.49E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     7     1.56E-01       5     1.05E-07     -5.78E-05     7     1.56E-01       5     1.00E-07     -5.34E-05     7     1.56E-01       5     1.05E-07     -5.34E-05     1     2.22E-02       5     1.05E-07     -5.34E-05     1     2.22E-02	5	9.54E-08	-4.75E-05	4	8.89E-02
5     9.25E-08     -5.48E-05     1     2.22E-02       5     9.43E-08     -5.19E-05     2     4.44E-02       5     9.73E-08     -4.39E-05     9     2.00E-01       5     8.75E-08     -5.59E-05     6     1.33E-01       5     9.36E-08     -4.39E-05     8     1.78E-01       5     9.94E-08     -5.59E-05     5     1.11E-01       5     9.94E-08     -5.59E-05     5     1.11E-01       5     9.94E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     5     1.11E-01       5     9.49E-08     -5.59E-05     6     1.33E-01       5     1.05E-07     -5.48E-05     7     1.56E-01       5     9.42E-08     -5.78E-05     1     2.22E-02       5     1.06E-07     -5.34E-05     7     1.56E-01       5     9.5E-08     -5.48E-05     7     1.56E-01       5     1.05E-07     -5.34E-05     3     6.67E-02  <	5	9.21E-08	-5.78E-05	4	8.89E-02
5     943E-08     -5.19E-05     2     4.44E-02       5     9.73E-08     -4.39E-05     9     2.00E-01       5     8.75E-08     -5.59E-05     6     1.33E-01       5     9.56E-08     -4.39E-05     8     1.78E-01       5     9.56E-08     -5.48E-05     7     1.56E-01       5     9.94E-08     -5.59E-05     5     1.11E-01       5     9.79E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     5     1.11E-01       5     9.49E-08     -5.59E-05     6     1.33E-01       5     1.05E-07     -5.70E-05     7     1.56E-01       5     9.42E-08     -5.59E-05     6     1.33E-01       5     9.42E-08     -5.70E-05     7     1.56E-01       5     9.55E-08     8.4E-05     7     1.56E-01       5     1.00E-07     -5.34E-05     1     2.22E-02       5     9.31E-08     -5.34E-05     1     2.22E-02 <tr< td=""><td>5</td><td>9.25E-08</td><td>-5.48E-05</td><td>1</td><td>2.22E-02</td></tr<>	5	9.25E-08	-5.48E-05	1	2.22E-02
5     9.73E-08     -4.39E-05     9     2.00E-01       5     8.75E-08     -5.59E-05     6     1.33E-01       5     9.56E-08     -4.39E-05     8     1.78E-01       5     9.94E-08     -5.48E-05     7     1.56E-01       5     9.94E-08     -5.59E-05     5     1.11E-01       5     9.49E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     5     1.11E-01       5     9.49E-08     -5.59E-05     6     1.33E-01       5     1.05E-07     -5.48E-05     7     1.56E-01       5     9.42E-08     -5.59E-05     6     1.33E-01       5     1.07E-07     -5.78E-05     1     2.22E-02       5     1.00E-07     -5.34E-05     1     2.22E-02       5     1.05E-01     -5.34E-05     1     2.22E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     1.02E-07     -5.34E-05     3     6.67E-02	5	9.43E-08	-5.19E-05	2	4.44E-02
5     8.75E-08     -5.59E-05     6     1.33E-01       5     9.56E-08     -4.39E-05     8     1.78E-01       5     9.94E-08     -5.48E-05     7     1.56E-01       5     9.79E-08     -5.70E-05     5     1.11E-01       5     9.49E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     5     1.11E-01       5     9.49E-08     -5.59E-05     6     1.33E-01       5     1.05E-07     -5.48E-05     7     1.56E-01       5     9.42E-08     -5.59E-05     1     2.22E-02       5     1.07E-07     -5.78E-05     1     2.22E-02       5     1.00E-07     -5.34E-05     7     1.56E-01       5     9.51E-08     -5.34E-05     1     2.22E-02       5     1.02E-07     -5.34E-05     1     2.22E-02       5     9.31E-08     -5.34E-05     7     1.56E-01       5     9.2E-08     -5.59E-05     8     1.78E-01  <	5	9.73E-08	-4.39E-05	9	2.00E-01
5     9.56E-08     -4.39E-05     8     1.78E-01       5     9.94E-08     -5.48E-05     7     1.56E-01       5     9.79E-08     -5.70E-05     5     1.11E-01       5     9.49E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     5     1.11E-01       5     9.42E-08     -5.59E-05     6     1.33E-01       5     1.07E-07     -5.70E-05     7     1.56E-01       5     9.42E-08     -5.78E-05     1     2.22E-02       5     1.00E-07     -5.34E-05     7     1.56E-01       5     9.55E-08     -5.34E-05     7     1.56E-01       5     1.05E-07     -4.39E-05     3     6.67E-02       5     9.19E-08     -5.34E-05     1     2.22E-02       5     1.02E-07     -5.34E-05     7     1.56E-01       5     9.31E-08     -5.48E-05     7     1.56E-01       5     1.04E-07     -5.34E-05     6     1.33E-01	5	8.75E-08	-5.59E-05	6	1.33E-01
5     9.94E-08     -5.48E-05     7     1.56E-01       5     9.79E-08     -5.70E-05     5     1.11E-01       5     9.49E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     5     1.11E-01       5     9.42E-08     -5.59E-05     6     1.33E-01       5     1.07E-07     -5.70E-05     7     1.56E-01       5     9.55E-08     -5.78E-05     1     2.22E-02       5     1.00E-07     -5.34E-05     7     1.56E-01       5     9.55E-08     -5.48E-05     2     4.44E-02       5     1.05E-07     -4.39E-05     3     6.67E-02       5     9.19E-08     -5.48E-05     7     1.56E-01       5     9.31E-08     -5.34E-05     3     6.67E-02       5     1.02E-07     -5.34E-05     7     1.56E-01       5     1.02E-07     -5.34E-05     6     1.33E-01       5     1.04E-07     -5.34E-05     8     1.78E-01	5	9.56E-08	-4.39E-05	8	1.78E-01
5     9.79E-08     -5.70E-05     5     1.11E-01       5     9.49E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     5     1.11E-01       5     9.42E-08     -5.59E-05     6     1.33E-01       5     1.07E-07     -5.70E-05     7     1.56E-01       5     9.55E-08     -5.78E-05     1     2.22E-02       5     1.00E-07     -5.34E-05     7     1.56E-01       5     1.05E-07     -4.39E-05     3     6.67E-02       5     1.05E-07     -4.39E-05     3     6.67E-02       5     9.19E-08     -5.34E-05     1     2.22E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     9.31E-08     -5.34E-05     3     6.67E-02       5     9.66E-08     -5.48E-05     7     1.56E-01       5     1.02E-07     -5.34E-05     8     1.78E-01       5     9.92E-08     -5.70E-05     8     1.78E-01	5	9.94E-08	-5.48E-05	7	1.56E-01
5     9.49E-08     -5.59E-05     4     8.89E-02       5     1.05E-07     -5.48E-05     5     1.11E-01       5     9.42E-08     -5.59E-05     6     1.33E-01       5     1.07E-07     -5.70E-05     7     1.56E-01       5     9.55E-08     -5.78E-05     1     2.22E-02       5     1.00E-07     -5.34E-05     7     1.56E-01       5     1.05E-07     -4.39E-05     3     6.67E-02       5     1.05E-07     -4.39E-05     2     4.44E-02       5     9.19E-08     -5.34E-05     1     2.22E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     1.02E-07     -5.34E-05     3     6.67E-02       5     1.02E-07     -5.34E-05     7     1.56E-01       5     9.92E-08     -5.59E-05     8     1.78E-01       5     9.92E-08     -5.59E-05     8     1.78E-01       5     1.04E-07     -5.78E-05     6     1.33E-01	5	9.79E-08	-5.70E-05	5	1.11E-01
5     1.05E-07     -5.48E-05     5     1.11E-01       5     9.42E-08     -5.59E-05     6     1.33E-01       5     1.07E-07     -5.70E-05     7     1.56E-01       5     9.55E-08     -5.78E-05     1     2.22E-02       5     1.00E-07     -5.34E-05     7     1.56E-01       5     1.05E-07     -4.39E-05     3     6.67E-02       5     9.19E-08     -5.48E-05     2     4.44E-02       5     9.19E-08     -5.34E-05     1     2.22E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     1.02E-07     -5.34E-05     3     6.67E-02       5     1.02E-07     -5.34E-05     7     1.56E-01       5     9.92E-08     -5.59E-05     8     1.78E-01       5     9.92E-08     -5.59E-05     8     1.78E-01       5     1.31E-07     -4.99E-05     6     1.33E-01       5     1.07E-07     -5.78E-05     6     1.33E-01	5	9.49E-08	-5.59E-05	4	8.89E-02
5     9.42E-08     -5.59E-05     6     1.33E-01       5     1.07E-07     -5.70E-05     7     1.56E-01       5     9.55E-08     -5.78E-05     1     2.22E-02       5     1.00E-07     -5.34E-05     7     1.56E-01       5     1.05E-07     -4.39E-05     3     6.67E-02       5     9.19E-08     -5.48E-05     2     4.44E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     9.31E-07     -5.34E-05     3     6.67E-02       5     9.66E-08     -5.48E-05     7     1.56E-01       5     9.92E-08     -5.59E-05     8     1.78E-01       5     9.92E-08     -5.70E-05     2     4.44E-02       5     1.31E-07     -4.99E-05     8     1.33E-01       5     1.07E-07     -5.78E-05     6     1.33E-01	5	1.05E-07	-5.48E-05	5	1.11E-01
5     1.07E-07     -5.70E-05     7     1.56E-01       5     9.55E-08     -5.78E-05     1     2.22E-02       5     1.00E-07     -5.34E-05     7     1.56E-01       5     1.05E-07     -4.39E-05     3     6.67E-02       5     9.19E-08     -5.48E-05     2     4.44E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     9.31E-08     -5.34E-05     3     6.67E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     1.02E-07     -5.34E-05     3     6.67E-02       5     9.66E-08     -5.48E-05     7     1.56E-01       5     1.02E-07     -5.34E-05     6     1.33E-01       5     9.92E-08     -5.59E-05     8     1.78E-01       5     1.92E-07     -5.78E-05     6     1.33E-01       5     1.31E-07     4.99E-05     8     1.78E-01       5     1.05E-07     -5.34E-05     5     1.11E-01  <	5	9.42E-08	-5.59E-05	6	1.33E-01
5     9.55E-08     -5.78E-05     1     2.22E-02       5     1.00E-07     -5.34E-05     7     1.56E-01       5     1.05E-07     -4.39E-05     3     6.67E-02       5     9.19E-08     -5.48E-05     2     4.44E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     9.31E-08     -5.34E-05     3     6.67E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     1.02E-07     -5.34E-05     3     6.67E-02       5     9.66E-08     -5.48E-05     7     1.56E-01       5     9.66E-08     -5.48E-05     7     1.56E-01       5     9.92E-08     -5.59E-05     8     1.78E-01       5     9.92E-08     -5.70E-05     2     4.44E-02       5     1.31E-07     -4.99E-05     8     1.78E-01       5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.01E-07     -4.39E-05     7     1.56E-01	5	1.07E-07	-5.70E-05	7	1.56E-01
5     1.00E-07     -5.34E-05     7     1.56E-01       5     1.05E-07     -4.39E-05     3     6.67E-02       5     9.19E-08     -5.48E-05     2     4.44E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     1.02E-07     -5.34E-05     3     6.67E-02       5     1.02E-07     -5.34E-05     3     6.67E-02       5     1.02E-07     -5.34E-05     7     1.56E-01       5     9.66E-08     -5.48E-05     7     1.56E-01       5     1.04E-07     -5.34E-05     6     1.33E-01       5     1.04E-07     -5.34E-05     8     1.78E-01       5     9.92E-08     -5.70E-05     8     1.78E-01       5     1.31E-07     -4.99E-05     8     1.78E-01       5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.01E-07     -4.39E-05     7     1.56E-01       5     1.05E-07     -5.34E-05     5     1.11E-01	5	9.55E-08	-5.78E-05	1	2.22E-02
5     1.05E-07     -4.39E-05     3     6.67E-02       5     9.19E-08     -5.48E-05     2     4.44E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     1.02E-07     -5.34E-05     3     6.67E-02       5     1.02E-07     -5.34E-05     3     6.67E-02       5     9.66E-08     -5.48E-05     7     1.56E-01       5     9.66E-08     -5.34E-05     6     1.33E-01       5     9.62E-08     -5.59E-05     8     1.78E-01       5     9.92E-08     -5.70E-05     2     4.44E-02       5     1.31E-07     -4.99E-05     8     1.78E-01       5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.07E-07     -5.34E-05     5     1.11E-01       5     1.07E-07     -5.34E-05     5     1.11E-01       5     1.01E-07     -4.39E-05     5     1.11E-01       5     1.06E-07     -4.75E-05     6     1.33E-01	5	1.00E-07	-5.34E-05	7	1.56E-01
5     9.19E-08     -5.48E-05     2     4.44E-02       5     9.31E-08     -5.34E-05     1     2.22E-02       5     1.02E-07     -5.34E-05     3     6.67E-02       5     9.66E-08     -5.48E-05     7     1.56E-01       5     1.04E-07     -5.34E-05     6     1.33E-01       5     9.92E-08     -5.59E-05     8     1.78E-01       5     9.92E-08     -5.70E-05     2     4.44E-02       5     1.31E-07     -4.99E-05     8     1.78E-01       5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.01E-07     -4.39E-05     7     1.56E-01       5     1.01E-07     -4.39E-05     5     1.11E-01       5     1.00E-07     -4.75E-05     1     2.22E-02       5     1.08E-07     -3.80E-05     4     8.89E-02	5	1.05E-07	-4.39E-05	3	6.67E-02
5     9.31E-08     -5.34E-05     1     2.22E-02       5     1.02E-07     -5.34E-05     3     6.67E-02       5     9.66E-08     -5.48E-05     7     1.56E-01       5     1.04E-07     -5.34E-05     6     1.33E-01       5     1.04E-07     -5.34E-05     6     1.33E-01       5     9.92E-08     -5.59E-05     8     1.78E-01       5     9.92E-08     -5.70E-05     2     4.44E-02       5     1.31E-07     -4.99E-05     8     1.78E-01       5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.01E-07     -4.39E-05     7     1.56E-01       5     1.01E-07     -4.39E-05     7     1.56E-01       5     1.05E-07     -5.34E-05     5     1.11E-01       5     1.06E-07     -4.75E-05     1     2.22E-02       5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.08E-07     -3.80E-05     4     8.89E-02	5	9.19E-08	-5.48E-05	2	4.44E-02
51.02E-07-5.34E-0536.67E-0259.66E-08-5.48E-0571.56E-0151.04E-07-5.34E-0561.33E-0159.92E-08-5.59E-0581.78E-0159.92E-08-5.70E-0524.44E-0251.31E-07-4.99E-0581.78E-0151.07E-07-5.78E-0561.33E-0151.07E-07-5.34E-0571.56E-0151.11E-07-4.39E-0571.56E-0151.05E-07-5.34E-0551.11E-0151.06E-07-4.75E-0561.33E-0151.06E-07-4.75E-0561.33E-0151.08E-07-3.80E-0548.89E-0259.71E-08-5.19E-0551.11E-0151.29E-07-4.99E-0551.11E-01	5	9.31E-08	-5.34E-05	1	2.22E-02
59.66E-08-5.48E-0571.56E-0151.04E-07-5.34E-0561.33E-0159.92E-08-5.59E-0581.78E-0159.92E-08-5.70E-0524.44E-0251.31E-07-4.99E-0581.78E-0151.07E-07-5.78E-0561.33E-0151.07E-07-5.78E-0561.33E-0151.01E-07-4.39E-0571.56E-0151.05E-07-5.34E-0551.11E-0151.06E-07-4.75E-0561.33E-0151.06E-07-4.75E-0561.33E-0151.06E-07-3.80E-0548.89E-0259.71E-08-5.19E-0551.11E-0151.29E-07-4.99E-0551.11E-01	5	1.02E-07	-5.34E-05	3	6.67E-02
5     1.04E-07     -5.34E-05     6     1.33E-01       5     9.92E-08     -5.59E-05     8     1.78E-01       5     9.92E-08     -5.70E-05     2     4.44E-02       5     1.31E-07     -4.99E-05     8     1.78E-01       5     1.31E-07     -4.99E-05     8     1.78E-01       5     1.31E-07     -4.99E-05     8     1.78E-01       5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.07E-07     -5.34E-05     7     1.56E-01       5     1.05E-07     -5.34E-05     5     1.11E-01       5     1.06E-07     -4.75E-05     1     2.22E-02       5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.08E-07     -3.80E-05     4     8.89E-02       5     9.71E-08     -5.19E-05     5     1.11E-01       5     1.29E-07     -4.99E-05     5     1.11E-01	5	9.66E-08	-5.48E-05	7	1.56E-01
59.92E-08-5.59E-0581.78E-0159.92E-08-5.70E-0524.44E-0251.31E-07-4.99E-0581.78E-0151.07E-07-5.78E-0561.33E-0151.11E-07-4.39E-0571.56E-0151.05E-07-5.34E-0551.11E-0151.06E-07-4.75E-0512.22E-0251.06E-07-4.75E-0561.33E-0151.08E-07-3.80E-0548.89E-0259.71E-08-5.19E-0551.11E-0151.29E-07-4.99E-0551.11E-01	5	1.04E-07	-5.34E-05	6	1.33E-01
5     9.92E-08     -5.70E-05     2     4.44E-02       5     1.31E-07     -4.99E-05     8     1.78E-01       5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.11E-07     -4.39E-05     7     1.56E-01       5     1.05E-07     -5.34E-05     5     1.11E-01       5     1.06E-07     -4.75E-05     1     2.22E-02       5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.08E-07     -3.80E-05     4     8.89E-02       5     9.71E-08     -5.19E-05     5     1.11E-01       5     1.29E-07     -4.99E-05     5     1.11E-01	5	9.92E-08	-5.59E-05	8	1.78E-01
5     1.31E-07     -4.99E-05     8     1.78E-01       5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.11E-07     -4.39E-05     7     1.56E-01       5     1.05E-07     -5.34E-05     5     1.11E-01       5     1.05E-07     -4.75E-05     1     2.22E-02       5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.08E-07     -3.80E-05     4     8.89E-02       5     9.71E-08     -5.19E-05     5     1.11E-01       5     1.29E-07     -4.99E-05     5     1.11E-01	5	9.92E-08	-5.70E-05	2	4.44E-02
5     1.07E-07     -5.78E-05     6     1.33E-01       5     1.11E-07     -4.39E-05     7     1.56E-01       5     1.05E-07     -5.34E-05     5     1.11E-01       5     1.05E-07     -4.75E-05     1     2.22E-02       5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.08E-07     -3.80E-05     4     8.89E-02       5     9.71E-08     -5.19E-05     5     1.11E-01       5     1.29E-07     -4.99E-05     5     1.11E-01	5	1.31E-07	-4.99E-05	8	1.78E-01
5     1.11E-07     -4.39E-05     7     1.56E-01       5     1.05E-07     -5.34E-05     5     1.11E-01       5     1.10E-07     -4.75E-05     1     2.22E-02       5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.08E-07     -3.80E-05     4     8.89E-02       5     9.71E-08     -5.19E-05     5     1.11E-01       5     1.29E-07     -4.99E-05     5     1.11E-01	5	1.07E-07	-5.78E-05	6	1.33E-01
5     1.05E-07     -5.34E-05     5     1.11E-01       5     1.10E-07     -4.75E-05     1     2.22E-02       5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.08E-07     -3.80E-05     4     8.89E-02       5     9.71E-08     -5.19E-05     5     1.11E-01       5     1.29E-07     -4.99E-05     5     1.11E-01	5	1.11E-07	-4.39E-05	7	1.56E-01
5     1.10E-07     -4.75E-05     1     2.22E-02       5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.08E-07     -3.80E-05     4     8.89E-02       5     9.71E-08     -5.19E-05     5     1.11E-01       5     1.29E-07     -4.99E-05     5     1.11E-01	5	1.05E-07	-5.34E-05	5	1.11E-01
5     1.06E-07     -4.75E-05     6     1.33E-01       5     1.08E-07     -3.80E-05     4     8.89E-02       5     9.71E-08     -5.19E-05     5     1.11E-01       5     1.29E-07     -4.99E-05     5     1.11E-01	5	1.10E-07	-4.75E-05	1	2.22E-02
5     1.08E-07     -3.80E-05     4     8.89E-02       5     9.71E-08     -5.19E-05     5     1.11E-01       5     1.29E-07     -4.99E-05     5     1.11E-01	5	1.06E-07	-4.75E-05	6	1.33E-01
5     9.71E-08     -5.19E-05     5     1.11E-01       5     1.29E-07     -4.99E-05     5     1.11E-01	5	1.08E-07	-3.80E-05	4	8.89E-02
5 1.29E-07 -4.99E-05 5 1.11E-01	5	9.71E-08	-5.19E-05	5	1.11E-01
	5	1.29E-07	-4.99E-05	5	1.11E-01

5	1.43E-07	-5.59E-05	2	4.44E-02
5	1.22E-07	-3.80E-05	4	8.89E-02
5	1.01E-07	-5.48E-05	4	8.89E-02
5	9.77E-08	-3.80E-05	5	1.11E-01
5	1.02E-07	-3.80E-05	8	1.78E-01
5	9.47E-08	-5.70E-05	6	1.33E-01
5	1.04E-07	-5.59E-05	7	1.56E-01
5	9.53E-08	-4.75E-05	4	8.89E-02
5	9.73E-08	-5.78E-05	4	8.89E-02
5	9.81E-08	-5.48E-05	1	2.22E-02
5	1.01E-07	-5.19E-05	2	4.44E-02
5	1.01E-07	-4.39E-05	9	2.00E-01
5	1.13E-07	-5.59E-05	6	1.33E-01
5	9.94E-08	-4.39E-05	8	1.78E-01
5	1.04E-07	-5.48E-05	7	1.56E-01
5	1.01E-07	-5.70E-05	5	1.11E-01
5	9.99E-08	-5.59E-05	4	8.89E-02
5	1.33E-07	-5.48E-05	5	1.11E-01
5	1.26E-07	-5.59E-05	6	1.33E-01
5	1.05E-07	-5.70E-05	7	1.56E-01
5	1.01E-07	-5.78E-05	1	2.22E-02
5	1.34E-07	-5.34E-05	7	1.56E-01
5	9.94E-08	-4.39E-05	3	6.67E-02
5	1.22E-07	-5.48E-05	2	4.44E-02
5	9.92E-08	-5.34E-05	1	2.22E-02
5	1.01E-07	-5.34E-05	3	6.67E-02
5	1.15E-07	-5.48E-05	7	1.56E-01
5	1.26E-07	-5.34E-05	6	1.33E-01
5	1.14E-07	-5.59E-05	8	1.78E-01
5	9.68E-08	-5.70E-05	2	4.44E-02
5	1.32E-07	-4.99E-05	8	1.78E-01
5	9.98E-08	-5.78E-05	6	1.33E-01
5	1.32E-07	-4.39E-05	7	1.56E-01
5	1.05E-07	-5.34E-05	5	1.11E-01
5	1.34E-07	-4.75E-05	1	2.22E-02
5	1.33E-07	-4.75E-05	6	1.33E-01
5	1.06E-07	-3.80E-05	4	8.89E-02
5	1.22E-07	-5.19E-05	5	1.11E-01
5	1.00E-07	-4.99E-05	5	1.11E-01
5	1.01E-07	-5.59E-05	2	4.44E-02
5	1.24E-07	-3.80E-05	4	8.89E-02
5	1.26E-07	-5.48E-05	4	8.89E-02
5	1.01E-07	-3.80E-05	5	1.11E-01
5	1.05E-07	-3.80E-05	8	1.78E-01

5	9.37E-08	-5.70E-05	6	1.33E-01
5	1.12E-07	-5.59E-05	7	1.56E-01
5	9.82E-08	-4.75E-05	4	8.89E-02
5	9.87E-08	-5.78E-05	4	8.89E-02
5	1.09E-07	-5.48E-05	1	2.22E-02
5	1.02E-07	-5.19E-05	2	4.44E-02
5	1.03E-07	-4.39E-05	9	2.00E-01
5	1.02E-07	-5.59E-05	6	1.33E-01
5	1.04E-07	-4.39E-05	8	1.78E-01
5	1.03E-07	-5.48E-05	7	1.56E-01
5	1.08E-07	-5.70E-05	5	1.11E-01
5	1.06E-07	-5.59E-05	4	8.89E-02
5	1.11E-07	-5.48E-05	5	1.11E-01
5	1.29E-07	-5.59E-05	6	1.33E-01
5	1.12E-07	-5.70E-05	7	1.56E-01
5	1.01E-07	-5.78E-05	1	2.22E-02
5	1.08E-07	-5.34E-05	7	1.56E-01
5	1.02E-07	-4.39E-05	3	6.67E-02
5	1.01E-07	-5.48E-05	2	4.44E-02
5	1.35E-07	-5.34E-05	1	2.22E-02
5	1.05E-07	-5.34E-05	3	6.67E-02
5	1.31E-07	-5.48E-05	7	1.56E-01
5	1.00E-07	-5.34E-05	6	1.33E-01
5	1.01E-07	-5.59E-05	8	1.78E-01
5	1.02E-07	-5.70E-05	2	4.44E-02
5	1.28E-07	-4.99E-05	8	1.78E-01
5	1.01E-07	-5.78E-05	6	1.33E-01
5	1.31E-07	-4.39E-05	7	1.56E-01
5	1.06E-07	-5.34E-05	5	1.11E-01
5	1.10E-07	-4.75E-05	1	2.22E-02
5	1.34E-07	-4.75E-05	6	1.33E-01
5	1.09E-07	-3.80E-05	4	8.89E-02
5	1.01E-07	-5.19E-05	5	1.11E-01
5	1.26E-07	-4.99E-05	5	1.11E-01
5	1.29E-07	-5.59E-05	2	4.44E-02
5	1.29E-07	-3.80E-05	4	8.89E-02
5	1.27E-07	-5.48E-05	4	8.89E-02
6	1.27E-07	-3.80E-05	5	1.11E-01
6	1.32E-07	-3.80E-05	8	1.78E-01
6	1.19E-07	-5.70E-05	6	1.33E-01
6	1.33E-07	-5.59E-05	7	1.56E-01
6	1.30E-07	-4.75E-05	4	8.89E-02
6	1.29E-07	-5.78E-05	4	8.89E-02
6	1.27E-07	-5.48E-05	1	2.22E-02

6	1.29E-07	-5.19E-05	2	4.44E-02
6	1.34E-07	-4.39E-05	9	2.00E-01
6	1.28E-07	-5.59E-05	6	1.33E-01
6	1.28E-07	-4.39E-05	8	1.78E-01
6	1.40E-07	-5.48E-05	7	1.56E-01
6	1.36E-07	-5.70E-05	5	1.11E-01
6	1.41E-07	-5.59E-05	4	8.89E-02
6	1.47E-07	-5.48E-05	5	1.11E-01
6	1.34E-07	-5.59E-05	6	1.33E-01
6	1.34E-07	-5.70E-05	7	1.56E-01
6	1.42E-07	-5.78E-05	1	2.22E-02
6	1.57E-07	-5.34E-05	7	1.56E-01
6	1.27E-07	-4.39E-05	3	6.67E-02
6	1.28E-07	-5.48E-05	2	4.44E-02
6	1.35E-07	-5.34E-05	1	2.22E-02
6	1.29E-07	-5.34E-05	3	6.67E-02
6	1.34E-07	-5.48E-05	7	1.56E-01
6	1.42E-07	-5.34E-05	6	1.33E-01
6	1.03E-07	-5.59E-05	8	1.78E-01
6	1.00E-07	-5.70E-05	2	4.44E-02
6	1.05E-07	-4.99E-05	8	1.78E-01
6	1.03E-07	-5.78E-05	6	1.33E-01
6	1.07E-07	-4.39E-05	7	1.56E-01
6	1.13E-07	-5.34E-05	5	1.11E-01
6	1.15E-07	-4.75E-05	1	2.22E-02
6	1.21E-07	-4.75E-05	6	1.33E-01
6	1.14E-07	-3.80E-05	4	8.89E-02
6	9.71E-08	-5.19E-05	5	1.11E-01
6	1.01E-07	-4.99E-05	5	1.11E-01
6	1.06E-07	-5.59E-05	2	4.44E-02
6	1.00E-07	-3.80E-05	4	8.89E-02
6	1.05E-07	-5.48E-05	4	8.89E-02
6	9.82E-08	-3.80E-05	5	1.11E-01
6	1.03E-07	-3.80E-05	8	1.78E-01
6	8.95E-08	-5.70E-05	6	1.33E-01
6	1.01E-07	-5.59E-05	7	1.56E-01
6	9.17E-08	-4.75E-05	4	8.89E-02
6	9.33E-08	-5.78E-05	4	8.89E-02
6				
6	9.39E-08	-5.48E-05	1	2.22E-02
6	9.39E-08 9.44E-08	-5.48E-05 -5.19E-05	1 2	2.22E-02 4.44E-02
Ū	9.39E-08 9.44E-08 9.67E-08	-5.48E-05 -5.19E-05 -4.39E-05	1 2 9	2.22E-02 4.44E-02 2.00E-01
6	9.39E-08 9.44E-08 9.67E-08 8.83E-08	-5.48E-05 -5.19E-05 -4.39E-05 -5.59E-05	1 2 9 6	2.22E-02 4.44E-02 2.00E-01 1.33E-01
6 6	9.39E-08 9.44E-08 9.67E-08 8.83E-08 9.47E-08	-5.48E-05 -5.19E-05 -4.39E-05 -5.59E-05 -4.39E-05	1 2 9 6 8	2.22E-02 4.44E-02 2.00E-01 1.33E-01 1.78E-01

6	1.05E-07	-5.70E-05	5	1.11E-01
6	9.80E-08	-5.59E-05	4	8.89E-02
6	1.05E-07	-5.48E-05	5	1.11E-01
6	9.70E-08	-5.59E-05	6	1.33E-01
6	1.05E-07	-5.70E-05	7	1.56E-01
6	9.99E-08	-5.78E-05	1	2.22E-02
6	1.00E-07	-5.34E-05	7	1.56E-01
6	1.02E-07	-4.39E-05	3	6.67E-02
6	9.20E-08	-5.48E-05	2	4.44E-02
6	9.31E-08	-5.34E-05	1	2.22E-02
6	1.01E-07	-5.34E-05	3	6.67E-02
6	9.87E-08	-5.48E-05	7	1.56E-01
6	1.06E-07	-5.34E-05	6	1.33E-01
6	1.03E-07	-5.59E-05	8	1.78E-01
6	1.00E-07	-5.70E-05	2	4.44E-02
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6	1.08E-07	-5.78E-05	6	1.33E-01
6	1.24E-07	-4.39E-05	7	1.56E-01
6	1.14E-07	-5.34E-05	5	1.11E-01
6	1.07E-07	-4.75E-05	1	2.22E-02
6	1.22E-07	-4.75E-05	6	1.33E-01
6	1.11E-07	-3.80E-05	4	8.89E-02
6	9.81E-08	-5.19E-05	5	1.11E-01
6	1.30E-07	-4.99E-05	5	1.11E-01
6	1.46E-07	-5.59E-05	2	4.44E-02
6	1.16E-07	-3.80E-05	4	8.89E-02
6	1.00E-07	-5.48E-05	4	8.89E-02
6	9.94E-08	-3.80E-05	5	1.11E-01
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6	9.72E-08	-5.78E-05	4	8.89E-02
6	9.81E-08	-5.48E-05	1	2.22E-02
6	1.01E-07	-5.19E-05	2	4.44E-02
6	9.98E-08	-4.39E-05	9	2.00E-01
6	1.18E-07	-5.59E-05	6	1.33E-01
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6	1.00E-07	-5.70E-05	5	1.11E-01
6	1.22E-07	-5.59E-05	4	8.89E-02
6	1.21E-07	-5.48E-05	5	1.11E-01
6	1.25E-07	-5.59E-05	6	1.33E-01
6	1.06E-07	-5.70E-05	7	1.56E-01

6	1.01E-07	-5.78E-05	1	2.22E-02
6	1.34E-07	-5.34E-05	7	1.56E-01
6	9.83E-08	-4.39E-05	3	6.67E-02
6	1.23E-07	-5.48E-05	2	4.44E-02
6	9.88E-08	-5.34E-05	1	2.22E-02
6	1.01E-07	-5.34E-05	3	6.67E-02
6	1.04E-07	-5.48E-05	7	1.56E-01
6	1.26E-07	-5.34E-05	6	1.33E-01
6	1.24E-07	-5.59E-05	8	1.78E-01
6	9.70E-08	-5.70E-05	2	4.44E-02
6	1.25E-07	-4.99E-05	8	1.78E-01
6	9.99E-08	-5.78E-05	6	1.33E-01
6	1.31E-07	-4.39E-05	7	1.56E-01
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6	1.06E-07	-3.80E-05	4	8.89E-02
6	1.21E-07	-5.19E-05	5	1.11E-01
6	9.89E-08	-4.99E-05	5	1.11E-01
6	1.01E-07	-5.59E-05	2	4.44E-02
6	1.24E-07	-3.80E-05	4	8.89E-02
6	1.01E-07	-5.48E-05	4	8.89E-02
6	1.02E-07	-3.80E-05	5	1.11E-01
6	1.04E-07	-3.80E-05	8	1.78E-01
6	9.37E-08	-5.70E-05	6	1.33E-01
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6	9.79E-08	-4.75E-05	4	8.89E-02
6	1.00E-07	-5.78E-05	4	8.89E-02
6	1.04E-07	-5.48E-05	1	2.22E-02
6	1.03E-07	-5.19E-05	2	4.44E-02
6	1.04E-07	-4.39E-05	9	2.00E-01
6	9.82E-08	~5.59E-05	6	1.33E-01
6	1.02E-07	-4.39E-05	8	1.78E-01
6	1.05E-07	-5.48E-05	7	1.56E-01
6	1.07E-07	-5.70E-05	5	1.11E-01
6	1.05E-07	-5.59E-05	4	8.89E-02
6	1.10E-07	-5.48E-05	5	1.11E-01
6	1.31E-07	-5.59E-05	6	1.33E-01
6	1.14E-07	-5.70E-05	7	1.56E-01
6	1.02E-07	-5.78E-05	1	2.22E-02
6	1.17E-07	-5.34E-05	7	1.56E-01
6	1.02E-07	-4.39E-05	3	6.67E-02
6	1.02E-07	-5.48E-05	2	4.44E-02
6	1.47E-07	-5.34E-05	1	2.22E-02

6	1.06E-07	-5.34E-05	3	6.67E-02
6	1.34E-07	-5.48E-05	7	1.56E-01
6	1.00E-07	-5.34E-05	6	1.33E-01
6	1.01E-07	-5.59E-05	8	1.78E-01
6	1.26E-07	-5.70E-05	2	4.44E-02
6	1.31E-07	-4.99E-05	8	1.78E-01
6	1.01E-07	-5.78E-05	6	1.33E-01
6	1.35E-07	-4.39E-05	7	1.56E-01
6	1.07E-07	-5.34E-05	5	1.11E-01
6	1.07E-07	-4.75E-05	1	2.22E-02
6	1.37E-07	-4.75E-05	6	1.33E-01
6	1.09E-07	-3.80E-05	4	8.89E-02
6	9.83E-08	-5.19E-05	5	1.11E-01
6	1.25E-07	-4.99E-05	5	1.11E-01
6	1.30E-07	-5.59E-05	2	4.44E-02
6	1.01E-07	-3.80E-05	4	8.89E-02
6	1.28E-07	-5.48E-05	4	8.89E-02
7	1.27E-07	-3.80E-05	5	1.11E-01
7	1.31E-07	-3.80E-05	8	1.78E-01
7	1.19E-07	-5.70E-05	6	1.33E-01
7	1.33E-07	-5.59E-05	7	1.56E-01
7	1.27E-07	-4.75E-05	4	8.89E-02
7	1.32E-07	-5.78E-05	4	8.89E-02
7	1.27E-07	-5.48E-05	1	2.22E-02
7	1.29E-07	-5.19E-05	2	4.44E-02
7	1.31E-07	-4.39E-05	9	2.00E-01
7	1.32E-07	-5.59E-05	6	1.33E-01
7	1.39E-07	-4.39E-05	8	1.78E-01
7	1.49E-07	-5.48E-05	7	1.56E-01
7	1.35E-07	-5.70E-05	5	1.11E-01
7	1.43E-07	-5.59E-05	4	8.89E-02
7	1.37E-07	-5.48E-05	5	1.11E-01
7	1.38E-07	-5.59E-05	6	1.33E-01
7	1.36E-07	-5.70E-05	7	1.56E-01
7	1.41E-07	-5.78E-05	1	2.22E-02
7	1.45E-07	-5.34E-05	7	1.56E-01
7	1.27E-07	-4.39E-05	3	6.67E-02
7	1.32E-07	-5.48E-05	2	4.44E-02
7	1.30E-07	-5.34E-05	1	2.22E-02
7	1.30E-07	-5.34E-05	3	6.67E-02
7	1.38E-07	-5.48E-05	7	1.56E-01
7	1.29E-07	-5.34E-05	6	1.33E-01
7	9.84E-08	-5.59E-05	8	1.78E-01
7	9.92E-08	-5.70E-05	2	4.44E-02

7	1.08E-07	-4.99E-05	8	1.78E-01
7	1.02E-07	-5.78E-05	6	1.33E-01
7	1.14E-07	-4.39E-05	7	1.56E-01
7	1.17E-07	-5.34E-05	5	1.11E-01
7	1.09E-07	-4.75E-05	1	2.22E-02
7	1.11E-07	-4.75E-05	6	1.33E-01
7	1.19E-07	-3.80E-05	4	8.89E-02
7	1.03E-07	-5.19E-05	5	1.11E-01
7	9.80E-08	-4.99E-05	5	1.11E-01
7	1.01E-07	-5.59E-05	2	4.44E-02
7	9.61E-08	-3.80E-05	4	8.89E-02
7	1.00E-07	-5.48E-05	4	8.89E-02
7	9.94E-08	-3.80E-05	5	1.11E-01
7	1.06E-07	-3.80E-05	8	1.78E-01
7	8.87E-08	-5.70E-05	6	1.33E-01
7	1.01E-07	-5.59E-05	7	1.56E-01
7	9.12E-08	-4.75E-05	4	8.89E-02
7	9.25E-08	-5.78E-05	4	8.89E-02
7	9.27E-08	-5.48E-05	1	2.22E-02
7	9.38E-08	-5.19E-05	2	4.44E-02
7	9.61E-08	-4.39E-05	9	2.00E-01
7	8.84E-08	-5.59E-05	6	1.33E-01
7	1.02E-07	-4.39E-05	8	1.78E-01
7	1.07E-07	-5.48E-05	7	1.56E-01
7	1.04E-07	-5.70E-05	5	1.11E-01
7	9.58E-08	-5.59E-05	4	8.89E-02
7	1.03E-07	-5.48E-05	5	1.11E-01
7	9.47E-08	-5.59E-05	6	1.33E-01
7	1.08E-07	-5.70E-05	7	1.56E-01
7	9.91E-08	-5.78E-05	1	2.22E-02
7	1.05E-07	-5.34E-05	7	1.56E-01
7	1.26E-07	-4.39E-05	3	6.67E-02
7	9.16E-08	-5.48E-05	2	4.44E-02
7	9.35E-08	-5.34E-05	1	2.22E-02
7	1.00E-07	-5.34E-05	3	6.67E-02
7	1.01E-07	-5.48E-05	7	1.56E-01
7	1.01E-07	-5.34E-05	6	1.33E-01
7	1.01E-07	-5.59E-05	8	1.78E-01
7	9.87E-08	-5.70E-05	2	4.44E-02
7	1.02E-07	-4.99E-05	8	1.78E-01
7	1.01E-07	-5.78E-05	6	1.33E-01
7	1.40E-07	-4.39E-05	7	1.56E-01
7	1.08E-07	-5.34E-05	5	1.11E-01
7	1.06E-07	-4.75E-05	1	2.22E-02

7	1.32E-07	-4.75E-05	6	1.33E-01
7	1.07E-07	-3.80E-05	4	8.89E-02
7	9.92E-08	-5.19E-05	5	1.11E-01
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7	1.00E-07	-3.80E-05	5	1.11E-01
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7	1.02E-07	-5.19E-05	2	4.44E-02
7	9.90E-08	-4.39E-05	9	2.00E-01
7	1.19E-07	-5.59E-05	6	1.33E-01
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7	1.01E-07	-5.48E-05	7	1.56E-01
7	1.01E-07	-5.70E-05	5	1.11E-01
7	1.22E-07	-5.59E-05	4	8.89E-02
7	1.06E-07	-5.48E-05	5	1.11E-01
7	1.26E-07	-5.59E-05	6	1.33E-01
7	1.04E-07	-5.70E-05	7	1.56E-01
7	9.86E-08	-5.78E-05	1	2.22E-02
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7	1.22E-07	-5.48E-05	2	4.44E-02
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7	1.00E-07	-5.78E-05	6	1.33E-01
7	1.25E-07	-4.39E-05	7	1.56E-01
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7	1.19E-07	-3.80E-05	4	8.89E-02
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7	1.00E-07	-5.78E-05	4	8.89E-02
7	1.08E-07	-5.48E-05	1	2.22E-02
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7	1.09E-07	-5.59E-05	4	8.89E-02
7	1.08E-07	-5.48E-05	5	1.11E-01
7	1.33E-07	-5.59E-05	6	1.33E-01
7	1.19E-07	-5.70E-05	7	1.56E-01
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7	1.06E-07	-5.34E-05	3	6.67E-02
7	1.33E-07	-5.48E-05	7	1.56E-01
7	1.04E-07	-5.34E-05	6	1.33E-01
7	1.00E-07	-5.59E-05	8	1.78E-01
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7	1.27E-07	-4.99E-05	8	1.78E-01
7	1.04E-07	-5.78E-05	6	1.33E-01
7	1.35E-07	-4.39E-05	7	1.56E-01
7	1.07E-07	-5.34E-05	5	1.11E-01
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7	9.91E-08	-5.19E-05	5	1.11E-01
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7	1.28E-07	-5.48E-05	4	8.89E-02
9	1.26E-07	-3.80E-05	5	1.11E-01
9	1.32E-07	-3.80E-05	8	1.78E-01
9	1.19E-07	-5.70E-05	6	1.33E-01

9	1.34E-07	-5.59E-05	7	1.56E-01
9	1.31E-07	-4.75E-05	4	8.89E-02
9	1.40E-07	-5.78E-05	4	8.89E-02
9	1.27E-07	-5.48E-05	1	2.22E-02
9	1.29E-07	-5.19E-05	2	4.44E-02
9	1.35E-07	-4.39E-05	9	2.00E-01
9	1.21E-07	-5.59E-05	6	1.33E-01
9	1.46E-07	-4.39E-05	8	1.78E-01
9	1.33E-07	-5.48E-05	7	1.56E-01
9	1.47E-07	-5.70E-05	5	1.11E-01
9	1.35E-07	-5.59E-05	4	8.89E-02
9	1.51E-07	-5.48E-05	5	1.11E-01
9	1.40E-07	-5.59E-05	6	1.33E-01
9	1.44E-07	-5.70E-05	7	1.56E-01
9	1.35E-07	-5.78E-05	1	2.22E-02
9	1.41E-07	-5.34E-05	7	1.56E-01
9	1.27E-07	-4.39E-05	3	6.67E-02
9	1.34E-07	-5.48E-05	2	4.44E-02
9	1.31E-07	-5.34E-05	1	2.22E-02
9	1.31E-07	-5.34E-05	3	6.67E-02
9	1.61E-07	-5.48E-05	7	1.56E-01
9	1.33E-07	-5.34E-05	6	1.33E-01
9	1.01E-07	-5.59E-05	8	1.78E-01
9	1.18E-07	-5.70E-05	2	4.44E-02
9	1.03E-07	-4.99E-05	8	1.78E-01
9	1.28E-07	-5.78E-05	6	1.33E-01
9	1.07E-07	-4.39E-05	7	1.56E-01
9	1.06E-07	-5.34E-05	5	1.11E-01
9	1.07E-07	-4.75E-05	1	2.22E-02
9	1.07E-07	-4.75E-05	6	1.33E-01
9	1.06E-07	-3.80E-05	4	8.89E-02
9	9.81E-08	-5.19E-05	5	1.11E-01
9	9.86E-08	-4.99E-05	5	1.11E-01
9	1.02E-07	-5.59E-05	2	4.44E-02
9	9.85E-08	-3.80E-05	4	8.89E-02
9	1.00E-07	-5.48E-05	4	8.89E-02
9	9.94E-08	-3.80E-05	5	1.11E-01
9	1.04E-07	-3.80E-05	8	1.78E-01
9	8.81E-08	-5.70E-05	6	1.33E-01
9	1.05E-07	-5.59E-05	7	1.56E-01
9	9.94E-08	-4.75E-05	4	8.89E-02
9	9.48E-08	-5.78E-05	4	8.89E-02
9	9.33E-08	-5.48E-05	1	2.22E-02
9	9.43E-08	-5.19E-05	2	4.44E-02
9	9.69E-08	-4.39E-05	9	2.00E-01
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9	8.81E-08	-5.59E-05	6	1.33E-01
9	9.90E-08	-4.39E-05	8	1.78E-01
9	9.83E-08	-5.48E-05	7	1.56E-01
9	9.93E-08	-5.70E-05	5	1.11E-01
9	9.08E-08	-5.59E-05	4	8.89E-02
9	1.04E-07	-5.48E-05	5	1.11E-01
9	9.32E-08	-5.59E-05	6	1.33E-01
9	1.01E-07	-5.70E-05	7	1.56E-01
9	9.50E-08	-5.78E-05	1	2.22E-02
9	1.01E-07	-5.34E-05	7	1.56E-01
9	9.69E-08	-4.39E-05	3	6.67E-02
9	9.19E-08	-5.48E-05	2	4.44E-02
9	9.73E-08	-5.34E-05	1	2.22E-02
9	1.01E-07	-5.34E-05	3	6.67E-02
9	9.99E-08	-5.48E-05	7	1.56E-01
9	1.01E-07	-5.34E-05	6	1.33E-01
9	1.07E-07	-5.59E-05	8	1.78E-01
9	9.81E-08	-5.70E-05	2	4.44E-02
9	1.06E-07	-4.99E-05	8	1.78E-01
9	1.02E-07	-5.78E-05	6	1.33E-01
9	1.34E-07	-4.39E-05	7	1.56E-01
9	1.16E-07	-5.34E-05	5	1.11E-01
9	1.06E-07	-4.75E-05	1	2.22E-02
9	1.34E-07	-4.75E-05	6	1.33E-01
9	1.10E-07	-3.80E-05	4	8.89E-02
9	1.01E-07	-5.19E-05	5	1.11E-01
9	1.28E-07	-4.99E-05	5	1.11E-01
9	1.33E-07	-5.59E-05	2	4.44E-02
9	9.78E-08	-3.80E-05	4	8.89E-02
9	1.00E-07	-5.48E-05	4	8.89E-02
9	9.90E-08	-3.80E-05	5	1.11E-01
9	1.02E-07	-3.80E-05	8	1.78E-01
9	9.32E-08	-5.70E-05	6	1.33E-01
9	1.04E-07	-5.59E-05	7	1.56E-01
9	9.85E-08	-4.75E-05	4	8.89E-02
9	9.87E-08	-5.78E-05	4	8.89E-02
9	9.82E-08	-5.48E-05	1	2.22E-02
9	1.00E-07	-5.19E-05	2	4.44E-02
9	1.01E-07	-4.39E-05	9	2.00E-01
9	9.37E-08	-5.59E-05	6	1.33E-01
9	1.12E-07	-4.39E-05	8	1.78E-01
9	1.07E-07	-5.48E-05	7	1.56E-01
9	1.01E-07	-5.70E-05	5	1.11E-01

9	1.08E-07	-5.59E-05	4	8.89E-02
9	1.07E-07	-5.48E-05	5	1.11E-01
9	1.25E-07	-5.59E-05	6	1.33E-01
9	1.10E-07	-5.70E-05	7	1.56E-01
9	1.01E-07	-5.78E-05	1	2.22E-02
9	1.36E-07	-5.34E-05	7	1.56E-01
9	1.25E-07	-4.39E-05	3	6.67E-02
9	9.82E-08	-5.48E-05	2	4.44E-02
9	9.94E-08	-5.34E-05	1	2.22E-02
9	1.02E-07	-5.34E-05	3	6.67E-02
9	1.02E-07	-5.48E-05	7	1.56E-01
9	9.99E-08	-5.34E-05	6	1.33E-01
9	1.22E-07	-5.59E-05	8	1.78E-01
9	9.72E-08	-5.70E-05	2	4.44E-02
9	1.01E-07	-4.99E-05	8	1.78E-01
9	1.21E-07	-5.78E-05	6	1.33E-01
9	1.04E-07	-4.39E-05	7	1.56E-01
9	1.28E-07	-5.34E-05	5	1.11E-01
9	1.06E-07	-4.75E-05	1	2.22E-02
9	1.13E-07	-4.75E-05	6	1.33E-01
9	1.35E-07	-3.80E-05	4	8.89E-02
9	9.52E-08	-5.19E-05	5	1.11E-01
9	9.97E-08	-4.99E-05	5	1.11E-01
9	1.02E-07	-5.59E-05	2	4.44E-02
9	1.23E-07	-3.80E-05	4	8.89E-02
9	1.00E-07	-5.48E-05	4	8.89E-02
9	1.07E-07	-3.80E-05	5	1.11E-01
9	1.14E-07	-3.80E-05	8	1.78E-01
9	9.99E-08	-5.70E-05	6	1.33E-01
9	1.32E-07	-5.59E-05	7	1.56E-01
9	1.00E-07	-4.75E-05	4	8.89E-02
9	1.00E-07	-5.78E-05	4	8.89E-02
9	1.06E-07	-5.48E-05	1	2.22E-02
9	1.06E-07	-5.19E-05	2	4.44E-02
9	1.04E-07	-4.39E-05	9	2.00E-01
9	9.94E-08	-5.59E-05	6	1.33E-01
9	1.02E-07	-4.39E-05	8	1.78E-01
9	1.05E-07	-5.48E-05	7	1.56E-01
9	1.06E-07	-5.70E-05	5	1.11E-01
9	1.02E-07	-5.59E-05	4	8.89E-02
9	1.08E-07	-5.48E-05	5	1.11E-01
9	1.29E-07	-5.59E-05	6	1.33E-01
9	1.19E-07	-5.70E-05	7	1.56E-01
9	1.05E-07	-5.78E-05	1	2.22E-02

9	1.37E-07	-5.34E-05	7	1.56E-01
9	1.03E-07	-4.39E-05	3	6.67E-02
9	1.03E-07	-5.48E-05	2	4.44E-02
9	1.35E-07	-5.34E-05	1	2.22E-02
9	1.07E-07	-5.34E-05	3	6.67E-02
9	1.32E-07	-5.48E-05	7	1.56E-01
9	1.02E-07	-5.34E-05	6	1.33E-01
9	1.00E-07	-5.59E-05	8	1.78E-01
9	1.24E-07	-5.70E-05	2	4.44E-02
9	1.04E-07	-4.99E-05	8	1.78E-01
9	1.05E-07	-5.78E-05	6	1.33E-01
9	1.34E-07	-4.39E-05	7	1.56E-01
9	1.10E-07	-5.34E-05	5	1.11E-01
9	1.11E-07	-4.75E-05	1	2.22E-02
9	1.35E-07	-4.75E-05	6	1.33E-01
9	1.09E-07	-3.80E-05	4	8.89E-02
9	1.01E-07	-5.19E-05	5	1.11E-01
9	1.25E-07	-4.99E-05	5	1.11E-01
9	1.03E-07	-5.59E-05	2	4.44E-02
9	1.26E-07	-3.80E-05	4	8.89E-02
9	1.05E-07	-5.48E-05	4	8.89E-02
10	1.26E-07	-3.80E-05	5	1.11E-01
10	1.31E-07	-3.80E-05	8	1.78E-01
10	1.19E-07	-5.70E-05	6	1.33E-01
10	1.26E-07	-5.59E-05	7	1.56E-01
10	1.25E-07	-4.75E-05	4	8.89E-02
10	1.35E-07	-5.78E-05	4	8.89E-02
10	1.28E-07	-5.48E-05	1	2.22E-02
10	1.30E-07	-5.19E-05	2	4.44E-02
10	1.33E-07	-4.39E-05	9	2.00E-01
10	1.24E-07	-5.59E-05	6	1.33E-01
10	1.42E-07	-4.39E-05	8	1.78E-01
10	1.32E-07	-5.48E-05	7	1.56E-01
10	1.61E-07	-5.70E-05	5	1.11E-01
10	1.42E-07	-5.59E-05	4	8.89E-02
10	1.41E-07	-5.48E-05	5	1.11E-01
10	1.40E-07	-5.59E-05	6	1.33E-01
10	1.49E-07	-5.70E-05	7	1.56E-01
10	1.45E-07	-5.78E-05	1	2.22E-02
10	1.56E-07	-5.34E-05	7	1.56E-01
10	1.30E-07	-4.39E-05	3	6.67E-02
10	1.29E-07	-5.48E-05	2	4.44E-02
10	1.36E-07	-5.34E-05	1	2.22E-02
10	1.35E-07	-5.34E-05	3	6.67E-02

10         1.38E-07         5.34E-05         6         1.33E-01           10         9.75E-08         5.59E-05         8         1.75E-01           10         1.02E-07         5.70E-05         8         1.75E-01           10         1.02E-07         4.39E-05         8         1.33E-01           10         1.13E-07         4.39E-05         6         1.33E-01           10         1.11E-07         4.39E-05         7         1.56E-01           10         1.11E-07         4.378E-05         6         1.33E-01           10         1.11E-07         4.75E-05         6         1.33E-01           10         1.11E-07         4.75E-05         6         1.33E-01           10         1.11E-07         4.75E-05         5         1.11E-01           10         1.05E-07         4.39E-05         5         1.11E-01           10         9.74E-08         -3.80E-05         5         1.11E-01           10         9.97E-08         5.48E-05         4         8.89E-02           10         9.97E-08         5.48E-05         1         1.32E-01           10         9.97E-08         5.48E-05         1.11E-01	10	1.45E-07	-5.48E-05	7	1.56E-01
10         9.79E-08         -5.59E-05         8         1.78E-01           10         1.02E-07         -5.70E-05         2         4.44E-02           10         1.05E-07         -4.39E-05         8         1.78E-01           10         1.11E-07         -5.78E-05         6         1.35E-01           10         1.11E-07         -4.39E-05         7         1.56E-01           10         1.11E-07         -4.37E-05         6         1.35E-01           10         1.11E-07         -4.37E-05         6         1.35E-01           10         1.01E-07         -4.37E-05         5         1.11E-01           10         1.01E-07         -5.59E-05         2         4.44E-02           10         1.01E-07         -5.59E-05         2         4.44E-02           10         0.92E-08         -5.38E-05         4         8.89E-02           10         0.92E-08         -5.38E-05         4         8.89E-02           10         1.00E-07         -5.38E-05         8         1.78E-01           10         1.00E-07         -5.38E-05         8         1.38E-01           10         1.00E-07         -5.38E-05         8         1.38E-01	10	1.28E-07	-5.34E-05	6	1.33E-01
10         1.02E-07         -5.70E-05         2         4.44E-02           10         1.06E-07         -4.99E-05         8         1.78E-01           10         1.11E-07         -5.78E-05         6         1.33E-01           10         1.11E-07         -5.34E-05         7         1.56E-01           10         1.11E-07         -5.34E-05         5         1.11E-01           10         1.11E-07         -4.35E-05         6         1.33E-01           10         1.05E-07         4.75E-05         6         1.33E-01           10         1.11E-07         -5.39E-05         5         1.11E-01           10         1.05E-07         -5.39E-05         5         1.11E-01           10         9.78E-08         -4.39E-05         5         1.11E-01           10         9.78E-08         -5.38E-05         4         8.89E-02           10         9.78E-08         -5.38E-05         4         8.89E-02           10         1.05E-07         -5.38E-05         7         1.56E-01           10         1.07E-07         -5.39E-05         7         1.56E-01           10         9.78E-08         -5.78E-05         4         8.89E-02	10	9.79E-08	-5.59E-05	8	1.78E-01
10         1.06E-07         4.39E-05         8         1.78E-01           10         1.13E-07         5.78E-05         6         1.33E-01           10         1.07E-07         4.39E-05         7         1.66E-01           10         1.11E-07         5.34E-05         5         1.11E-01           10         1.11E-07         4.75E-05         6         1.33E-01           10         1.05E-07         4.75E-05         6         1.33E-01           10         1.05E-07         4.75E-05         6         1.33E-01           10         1.05E-07         5.59E-05         5         1.11E-01           10         9.82E-08         4.49E-05         5         1.11E-01           10         9.74E-08         -3.30E-05         4         8.89E-02           10         9.74E-08         -3.30E-05         5         1.11E-01           10         9.74E-08         -3.30E-05         5         1.11E-01           10         9.74E-08         -3.30E-05         5         1.11E-01           10         1.05E-07         -3.30E-05         4         8.89E-02           10         1.05E-07         -5.59E-05         7         1.56E-01 <td>10</td> <td>1.02E-07</td> <td>-5.70E-05</td> <td>2</td> <td>4.44E-02</td>	10	1.02E-07	-5.70E-05	2	4.44E-02
10         1.15E-07         -5.78E-05         6         1.33E-01           10         1.07E-07         -4.39E-05         7         1.56E-01           10         1.11E-07         -5.34E-05         5         1.11E-07           10         1.11E-07         -4.75E-05         6         1.33E-01           10         1.11E-07         -4.75E-05         6         1.33E-01           10         1.05E-07         -4.75E-05         2         4.44E-02           10         1.0E-07         -5.59E-05         2         4.44E-02           10         9.82E-08         -4.99E-05         5         1.11E-01           10         9.74E-08         -3.80E-05         4         8.89E-02           10         9.74E-08         -3.80E-05         4         8.89E-02           10         1.05E-07         -3.80E-05         8         1.78E-01           10         1.05E-07         -5.59E-05         2         4.44E-02           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.43E-08         -5.59E-05         4         8.89E-02	10	1.06E-07	-4.99E-05	8	1.78E-01
10         1.07E-07         4.39E-05         7         1.56E-01           10         1.11E-07         4.35E-05         5         1.11E-01           10         1.11E-07         4.75E-05         6         1.33E-01           10         1.05E-07         4.75E-05         6         1.33E-01           10         1.11E-07         -3.00E-05         4         8.89E-02           10         1.11E-07         -5.19E-05         5         1.11E-01           10         9.82E-08         -4.99E-05         2         4.44E-02           10         9.97E-08         -3.38E-05         4         8.89E-02           10         9.74E-08         -3.38E-05         4         8.89E-02           10         9.97E-08         -5.48E-05         4         8.89E-02           10         1.05E-07         -3.30E-05         8         1.78E-01           10         1.05E-07         -5.39E-05         7         1.56E-01           10         9.94E-08         -5.78E-05         4         8.89E-02           10         9.41E-08         -5.78E-05         4         8.89E-02           10         9.41E-08         -5.78E-05         4         8.89E-02	10	1.13E-07	-5.78E-05	6	1.33E-01
10         1.11E-07         -5.34E-05         5         1.11E-01           10         1.11E-07         -4.75E-05         1         2.22E-02           10         1.05E-07         -4.75E-05         6         1.33E-01           10         1.10E-07         -5.9E-05         5         1.11E-01           10         1.10E-07         -5.9E-05         2         -4.44E-02           10         9.82E-08         -4.99E-05         5         1.11E-01           10         9.82E-08         -4.99E-05         2         -4.44E-02           10         9.05E-07         -5.59E-05         2         -4.44E-02           10         9.05E-07         -3.80E-05         4         8.89E-02           10         1.05E-07         -5.59E-05         7         1.16E-01           10         1.05E-07         -5.59E-05         4         8.89E-02           10         9.43E-08         -5.79E-05         4         8.89E-02 <td>10</td> <td>1.07E-07</td> <td>-4.39E-05</td> <td>7</td> <td>1.56E-01</td>	10	1.07E-07	-4.39E-05	7	1.56E-01
10         1.11E-07         4.75E-05         6         1.33E-01           10         1.05E-07         4.75E-05         6         1.33E-01           10         1.11E-07         -3.80E-05         5         1.11E-01           10         1.05E-07         -5.19E-05         5         1.11E-01           10         1.03E-07         -5.59E-05         5         1.11E-01           10         9.74E-08         -3.80E-05         4         8.89E-02           10         9.74E-08         -3.80E-05         4         8.89E-02           10         9.75E-08         -5.48E-05         4         8.89E-02           10         1.06E-07         -3.80E-05         8         1.11E-01           10         1.07E-07         -5.70E-05         6         1.33E-01           10         1.07E-07         -5.70E-05         6         1.33E-01           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.43E-08         -5.78E-05         4         8.89E-02           10         9.43E-08         -5.78E-05         4         8.89E-02           10         9.43E-08         -5.78E-05         2         4.456-01	10	1.11E-07	-5.34E-05	5	1.11E-01
10         1.05E-07         4.75E-05         6         1.33E-01           10         1.11E-07         -3.80E-05         4         8.89E-02           10         1.00E-07         -5.19E-05         5         1.11E-01           10         9.82E-08         -4.99E-05         5         1.11E-01           10         9.74E-08         -3.80E-05         2         4.44E-02           10         9.74E-08         -3.80E-05         4         8.89E-02           10         9.74E-08         -3.80E-05         5         1.11E-01           10         9.97E-08         -5.48E-05         4         8.89E-02           10         1.00E-07         -3.80E-05         8         1.78E-01           10         1.05E-07         -5.70E-05         6         1.33E-01           10         1.05E-07         -5.70E-05         7         1.56E-01           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.44E-08         -5.78E-05         7         1.56E-01           10         9.43E-08         -5.78E-05         7         1.56E-01           10         9.42E-08         -5.19E-05         7         1.56E-01	10	1.11E-07	-4.75E-05	1	2.22E-02
10         1.11E-07         -3.80E-05         4         8.89E-02           10         1.00E-07         -5.19E-05         5         1.11E-01           10         9.82E-08         -4.99E-05         5         1.11E-01           10         1.03E-07         -5.59E-05         2         4.44E-02           10         9.74E-08         -3.80E-05         4         8.89E-02           10         9.77E-08         -5.48E-05         4         8.89E-02           10         1.00E-07         -3.80E-05         8         1.78E-01           10         1.05E-07         -5.70E-05         6         1.33E-01           10         1.17E-07         -5.75E-05         7         1.56E-01           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.43E-08         -5.78E-05         4         8.89E-02           10         9.43E-08         -5.19E-05         2         4.44E-02           10         9.43E-08         -5.19E-05         5         1.13E-01           10         9.62E-08         -5.19E-05         6         1.33E-01           10         9.30E-08         -5.59E-05         6         1.33E-01	10	1.05E-07	-4.75E-05	6	1.33E-01
10         1.10E-07         -5.19E-05         5         1.11E-01           10         9.82E-08         -4.99E-05         5         1.11E-01           10         1.03E-07         -5.59E-05         2         -4.44E-02           10         9.74E-08         -3.80E-05         4         8.89E-02           10         9.97E-08         -5.48E-05         4         8.89E-02           10         1.00E-07         -3.80E-05         8         1.11E-01           10         1.05E-07         -5.59E-05         7         1.56E-01           10         1.05E-07         -5.59E-05         7         1.56E-01           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.43E-08         -5.78E-05         4         8.89E-02           10         9.43E-08         -5.78E-05         4         8.89E-02           10         9.43E-08         -5.78E-05         4         8.89E-02           10         9.46E-08         -5.19E-05         6         1.33E-01           10         9.66E-08         -5.59E-05         6         1.33E-01           10         1.04E-07         -5.48E-05         7         1.56E-01 <td>10</td> <td>1.11E-07</td> <td>-3.80E-05</td> <td>4</td> <td>8.89E-02</td>	10	1.11E-07	-3.80E-05	4	8.89E-02
10         9 82E-08         -4.99E-05         5         1.11E-01           10         1.03E-07         -5.59E-05         2         -4.44E-02           10         9.74E-08         -3.80E-05         4         8.89E-02           10         9.97E-08         -5.48E-05         4         8.89E-02           10         1.00E-07         -3.80E-05         5         1.11E-01           10         1.05E-07         -3.80E-05         8         .78E-01           10         1.05E-07         -5.59E-05         6         .13E-01           10         1.05E-07         -5.59E-05         4         8.89E-02           10         9.41E-08         -4.75E-05         4         8.89E-02           10         9.41E-08         -5.78E-05         4         8.89E-02           10         9.41E-08         -5.78E-05         4         8.89E-02           10         9.41E-08         -5.78E-05         1         2.22E-02           10         9.45E-08         -5.19E-05         6         1.33E-01           10         1.04E-07         -5.48E-05         5         1.11E-01           10         1.04E-07         -5.48E-05         1.11E-01	10	1.10E-07	-5.19E-05	5	1.11E-01
10         1.03E-07         -5.59E-05         2         4.44E-02           10         9.74E-08         -3.80E-05         4         8.89E-02           10         9.97E-08         -5.48E-05         4         8.89E-02           10         1.00E-07         -3.80E-05         5         1.11E-01           10         1.05E-07         -3.80E-05         8         1.78E-01           10         1.17E-07         -5.70E-05         6         1.33E-01           10         1.05E-07         -5.59E-05         7         1.56E-01           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.43E-08         -5.78E-05         4         8.89E-02           10         9.28E-08         -5.79E-05         6         1.33E-01           10         9.75E-08         -5.59E-05         6         1.33E-01           10         1.04E-07         -5.48E-05         7         1.56E-01	10	9.82E-08	-4.99E-05	5	1.11E-01
10         9.74E-08         -3.80E-05         4         8.89E-02           10         9.97E-08         -5.48E-05         4         8.89F-02           10         1.00E-07         -3.80E-05         5         1.11E-01           10         1.05E-07         -3.80E-05         8         1.73E-01           10         1.17E-07         -5.70E-05         6         1.33E-01           10         1.05E-07         -5.59E-05         7         1.56E-01           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.43E-08         -5.48E-05         4         8.89E-02           10         9.41E-06         -5.78E-05         6         1.33E-01           10         9.75E-08         -5.59E-05         6         1.33E-01           10         1.04E-07         -5.48E-05         7         1.56E-01	10	1.03E-07	-5.59E-05	2	4.44E-02
10         9.97E-08         -5.48E-05         4         8.89E-02           10         1.00E-07         -3.80E-05         5         1.11E-01           10         1.05E-07         -3.80E-05         8         1.78E-01           10         1.17E-07         -5.70E-05         6         1.33E-01           10         1.05E-07         -5.59E-05         7         1.56E-01           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.43E-08         -5.78E-05         4         8.89E-02           10         9.43E-08         -5.78E-05         4         8.89E-02           10         9.43E-08         -5.78E-05         4         8.89E-02           10         9.41E-08         -5.78E-05         4         8.89E-02           10         9.28E-08         -5.19E-05         2         4.44E-02           10         9.36E-08         -5.59E-05         6         1.33E-01           10         1.01E-07         -4.39E-05         8         1.78E-01           10         9.46E-08         -5.59E-05         4         8.89E-02           10         9.10E-08         -5.59E-05         1         1.22E-02	10	9.74E-08	-3.80E-05	4	8.89E-02
10         1.00E-07         -3.80E-05         5         1.11E-01           10         1.05E-07         -3.80E-05         8         1.78E-01           10         1.17E-07         -5.70E-05         6         1.33E-01           10         1.05E-07         -5.59E-05         7         1.56E-01           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.44E-08         -5.78E-05         4         8.89E-02           10         9.44E-08         -5.78E-05         4         8.89E-02           10         9.44E-08         -5.78E-05         4         8.89E-02           10         9.42E-08         -5.48E-05         1         2.22E-02           10         9.62E-08         -5.19E-05         2         4.44E-02           10         9.75E-08         -4.39E-05         9         2.00E-01           10         9.30E-08         -5.59E-05         6         1.33E-01           10         1.01E-07         -5.48E-05         7         1.56E-01           10         9.98E-08         -5.59E-05         4         8.89E-02           10         9.0E-08         -5.59E-05         1         2.22E-01	10	9.97E-08	-5.48E-05	4	8.89E-02
10         1.05E-07         -3.80E-05         8         1.78E-01           10         1.17E-07         -5.70E-05         6         1.33E-01           10         1.05E-07         -5.59E-05         7         1.56E-01           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.41E-08         -5.78E-05         4         8.89E-02           10         9.42E-08         -5.48E-05         1         2.22E-02           10         9.62E-08         -5.19E-05         2         4.44E-02           10         9.75E-08         -4.39E-05         9         2.00E-01           10         9.75E-08         -4.39E-05         6         1.33E-01           10         9.75E-08         -5.59E-05         6         1.33E-01           10         1.01E-07         -4.39E-05         8         1.78E-01           10         1.04E-07         -5.48E-05         7         1.56E-01           10         9.98E-08         -5.59E-05         6         1.33E-01           10         9.10E-08         -5.59E-05         7         1.56E-01           10         9.68E-08         -5.59E-05         7         1.56E-01	10	1.00E-07	-3.80E-05	5	1.11E-01
10         1.17E-07         -5.70E-05         6         1.33E-01           10         1.05E-07         -5.59E-05         7         1.56E-01           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.41E-08         -5.78E-05         4         8.89E-02           10         9.28E-08         -5.48E-05         1         2.22E-02           10         9.62E-08         -5.19E-05         2         4.44E-02           10         9.75E-08         -4.39E-05         9         2.00E-01           10         9.30E-08         -5.59E-05         6         1.33E-01           10         1.01E-07         -4.39E-05         8         1.78E-01           10         1.04E-07         -5.48E-05         7         1.56E-01           10         9.98E-08         -5.70E-05         5         1.11E-01           10         9.06E-08         -5.59E-05         6         1.33E-01           10         1.08E-07         -5.48E-05         5         1.11E-01           10         9.68E-08         -5.59E-05         6         1.33E-01           10         1.05E-07         -5.70E-05         7         1.56E-01	10	1.05E-07	-3.80E-05	8	1.78E-01
10         1.05E-07         -5.59E-05         7         1.56E-01           10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.41E-08         -5.78E-05         4         8.89E-02           10         9.28E-08         -5.48E-05         1         2.22E-02           10         9.62E-08         -5.19E-05         2         4.44E-02           10         9.75E-08         -4.39E-05         9         2.00E-01           10         9.30E-08         -5.59E-05         6         1.33E-01           10         1.01E-07         -4.39E-05         8         1.78E-01           10         1.04E-07         -5.48E-05         7         1.56E-01           10         9.98E-08         -5.59E-05         4         8.89E-02           10         9.98E-08         -5.59E-05         4         8.89E-02           10         9.0E-08         -5.59E-05         4         8.89E-02           10         9.0E-08         -5.59E-05         6         1.33E-01           10         9.0E-08         -5.59E-05         7         1.56E-01           10         9.51E-08         -5.78E-05         1         2.22E-02	10	1.17E-07	-5.70E-05	6	1.33E-01
10         9.43E-08         -4.75E-05         4         8.89E-02           10         9.41E-08         -5.78E-05         4         8.89E-02           10         9.28E-08         -5.48E-05         1         2.22E-02           10         9.62E-08         -5.19E-05         2         4.44E-02           10         9.75E-08         -4.39E-05         9         2.00E-01           10         9.30E-08         -5.59E-05         6         1.33E-01           10         1.01E-07         -4.39E-05         8         1.78E-01           10         1.04E-07         -5.48E-05         7         1.56E-01           10         9.98E-08         -5.70E-05         5         1.11E-01           10         9.10E-08         -5.59E-05         6         1.33E-01           10         9.08E-08         -5.59E-05         4         8.89E-02           10         1.08E-07         -5.48E-05         5         1.11E-01           10         9.68E-08         -5.59E-05         6         1.33E-01           10         9.51E-08         -5.78E-05         1         2.22E-02           10         9.51E-08         -5.34E-05         2         4.44E-02	10	1.05E-07	-5.59E-05	7	1.56E-01
10         9.41E-08         -5.78E-05         4         8.89E-02           10         9.28E-08         -5.48E-05         1         2.22E-02           10         9.62E-08         -5.19E-05         2         4.44E-02           10         9.75E-08         -4.39E-05         9         2.00E-01           10         9.75E-08         -4.39E-05         6         1.33E-01           10         9.30E-08         -5.59E-05         6         1.33E-01           10         1.01E-07         -4.39E-05         8         1.78E-01           10         1.04E-07         -5.48E-05         7         1.56E-01           10         9.98E-08         -5.59E-05         4         8.89E-02           10         9.10E-08         -5.59E-05         6         1.33E-01           10         9.98E-08         -5.59E-05         6         1.33E-01           10         1.08E-07         -5.48E-05         5         1.11E-01           10         9.68E-08         -5.59E-05         6         1.33E-01           10         9.51E-08         -5.34E-05         7         1.56E-01           10         9.96E-08         -5.34E-05         3         6.67E-02	10	9.43E-08	-4.75E-05	4	8.89E-02
10         9.28E-08         -5.48E-05         1         2.22E-02           10         9.62E-08         -5.19E-05         2         4.44E-02           10         9.75E-08         -4.39E-05         9         2.00E-01           10         9.30E-08         -5.59E-05         6         1.33E-01           10         1.01E-07         -4.39E-05         8         1.78E-01           10         1.04E-07         -5.48E-05         7         1.56E-01           10         9.98E-08         -5.59E-05         5         1.11E-01           10         9.98E-08         -5.59E-05         4         8.89E-02           10         9.98E-08         -5.59E-05         4         8.89E-02           10         9.98E-08         -5.59E-05         5         1.11E-01           10         9.98E-08         -5.59E-05         6         1.33E-01           10         9.68E-08         -5.59E-05         7         1.56E-01           10         9.68E-08         -5.59E-05         7         1.56E-01           10         9.96E-08         -5.34E-05         7         1.56E-01           10         9.17E-08         -5.34E-05         3         6.67E-02	10	9.41E-08	-5.78E-05	4	8.89E-02
10         9.62E-08         -5.19E-05         2         4.44E-02           10         9.75E-08         -4.39E-05         9         2.00E-01           10         9.30E-08         -5.59E-05         6         1.33E-01           10         1.01E-07         -4.39E-05         8         1.78E-01           10         1.04E-07         -5.48E-05         7         1.56E-01           10         9.98E-08         -5.70E-05         5         1.11E-01           10         9.10E-08         -5.59E-05         4         8.89E-02           10         9.10E-08         -5.59E-05         4         8.89E-02           10         9.06E-08         -5.59E-05         6         1.33E-01           10         9.68E-08         -5.59E-05         6         1.33E-01           10         9.68E-08         -5.59E-05         6         1.33E-01           10         9.51E-08         -5.78E-05         1         2.22E-02           10         9.96E-08         -5.34E-05         7         1.56E-01           10         9.17E-08         -5.34E-05         3         6.67E-02           10         9.69E-08         -5.34E-05         3         6.67E-02	10	9.28E-08	-5.48E-05	1	2.22E-02
10         9.75E-08         -4.39E-05         9         2.00E-01           10         9.30E-08         -5.59E-05         6         1.33E-01           10         1.01E-07         -4.39E-05         8         1.78E-01           10         1.04E-07         -5.48E-05         7         1.56E-01           10         9.98E-08         -5.70E-05         5         1.11E-01           10         9.10E-08         -5.59E-05         4         8.89E-02           10         1.08E-07         -5.48E-05         5         1.11E-01           10         9.10E-08         -5.59E-05         6         1.33E-01           10         1.08E-07         -5.48E-05         5         1.11E-01           10         9.68E-08         -5.59E-05         6         1.33E-01           10         9.68E-08         -5.34E-05         7         1.56E-01           10         9.51E-08         -5.34E-05         7         1.56E-01           10         9.37E-08         -4.39E-05         3         6.67E-02           10         9.17E-08         -5.34E-05         1         2.22E-02           10         1.01E-07         -5.34E-05         3         6.67E-02	10	9.62E-08	-5.19E-05	2	4.44E-02
10         9.30E-08         -5.59E-05         6         1.33E-01           10         1.01E-07         -4.39E-05         8         1.78E-01           10         1.04E-07         -5.48E-05         7         1.56E-01           10         9.98E-08         -5.70E-05         5         1.11E-01           10         9.10E-08         -5.59E-05         4         8.89E-02           10         1.08E-07         -5.48E-05         5         1.11E-01           10         9.068E-08         -5.59E-05         6         1.33E-01           10         1.08E-07         -5.70E-05         7         1.56E-01           10         9.68E-08         -5.59E-05         6         1.33E-01           10         9.68E-08         -5.70E-05         7         1.56E-01           10         9.51E-08         -5.78E-05         1         2.22E-02           10         9.96E-08         -5.34E-05         3         6.67E-02           10         9.17E-08         -5.34E-05         1         2.22E-02           10         9.69E-08         -5.34E-05         3         6.67E-02           10         1.01E-07         -5.34E-05         3         6.67E-02 <td>10</td> <td>9.75E-08</td> <td>-4.39E-05</td> <td>9</td> <td>2.00E-01</td>	10	9.75E-08	-4.39E-05	9	2.00E-01
10         1.01E-07         -4.39E-05         8         1.78E-01           10         1.04E-07         -5.48E-05         7         1.56E-01           10         9.98E-08         -5.70E-05         5         1.11E-01           10         9.10E-08         -5.59E-05         4         8.89E-02           10         1.08E-07         -5.48E-05         5         1.11E-01           10         9.68E-08         -5.59E-05         6         1.33E-01           10         9.68E-08         -5.59E-05         6         1.33E-01           10         9.68E-08         -5.70E-05         7         1.56E-01           10         9.68E-08         -5.78E-05         1         2.22E-02           10         9.51E-08         -5.78E-05         7         1.56E-01           10         9.37E-08         -4.39E-05         3         6.67E-02           10         9.17E-08         -5.34E-05         1         2.22E-02           10         9.69E-08         -5.34E-05         3         6.67E-02           10         9.10E-07         -5.34E-05         3         6.67E-02           10         1.01E-07         -5.34E-05         3         6.67E-02	10	9.30E-08	-5.59E-05	6	1.33E-01
101.04E-07-5.48E-0571.56E-01109.98E-08-5.70E-0551.11E-01109.10E-08-5.59E-0548.89E-02101.08E-07-5.48E-0551.11E-01109.68E-08-5.59E-0561.33E-01101.05E-07-5.70E-0571.56E-01109.51E-08-5.78E-0512.22E-02109.96E-08-5.34E-0571.56E-01109.37E-08-4.39E-0536.67E-02109.17E-08-5.34E-0512.22E-02109.17E-08-5.34E-0512.22E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0561.33E-01101.01E-07-5.34E-0561.33E-01101.01E-07-5.59E-0581.78E-01101.01E-07-5.34E-0561.33E-01101.01E-07-5.59E-0581.78E-01101.01E-07-5.59E-0581.78E-01101.04E-07-4.99E-0581.78E-01	10	1.01E-07	-4.39E-05	8	1.78E-01
109.98E-08-5.70E-0551.11E-01109.10E-08-5.59E-0548.89E-02101.08E-07-5.48E-0551.11E-01109.68E-08-5.59E-0561.33E-01101.05E-07-5.70E-0571.56E-01109.51E-08-5.78E-0512.22E-02109.96E-08-5.34E-0571.56E-01109.37E-08-4.39E-0536.67E-02109.17E-08-5.34E-0524.44E-02109.69E-08-5.34E-0512.22E-02109.17E-08-5.34E-0536.67E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0561.33E-01101.01E-07-5.59E-0581.78E-01101.01E-07-5.59E-0581.78E-01101.01E-07-5.59E-0581.78E-01101.04E-07-4.99E-0581.78E-01	10	1.04E-07	-5.48E-05	7	1.56E-01
109.10E-08-5.59E-0548.89E-02101.08E-07-5.48E-0551.11E-01109.68E-08-5.59E-0561.33E-01101.05E-07-5.70E-0571.56E-01109.51E-08-5.78E-0512.22E-02109.96E-08-5.34E-0571.56E-01109.37E-08-4.39E-0536.67E-02109.17E-08-5.48E-0524.44E-02109.69E-08-5.34E-0512.22E-02109.17E-08-5.34E-0536.67E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0571.56E-01101.01E-07-5.34E-0561.33E-01101.01E-07-5.34E-0561.33E-01101.01E-07-5.59E-0581.78E-01101.15E-07-5.59E-0581.78E-01101.04E-07-4.99E-0581.78E-01	10	9.98E-08	-5.70E-05	5	1.11E-01
101.08E-07-5.48E-0551.11E-01109.68E-08-5.59E-0561.33E-01101.05E-07-5.70E-0571.56E-01109.51E-08-5.78E-0512.22E-02109.96E-08-5.34E-0571.56E-01109.37E-08-4.39E-0536.67E-02109.17E-08-5.48E-0524.44E-02109.69E-08-5.34E-0512.22E-02109.17E-08-5.34E-0536.67E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0536.67E-02101.02E-07-5.34E-0536.67E-02101.01E-07-5.34E-0561.33E-01101.01E-07-5.34E-0561.33E-01101.15E-07-5.59E-0581.78E-01101.15E-07-5.59E-0581.78E-01101.04E-07-4.99E-0581.78E-01	10	9.10E-08	-5.59E-05	4	8.89E-02
109.68E-08-5.59E-0561.33E-01101.05E-07-5.70E-0571.56E-01109.51E-08-5.78E-0512.22E-02109.96E-08-5.34E-0571.56E-01109.37E-08-4.39E-0536.67E-02109.17E-08-5.48E-0524.44E-02109.69E-08-5.34E-0512.22E-02109.69E-08-5.34E-0512.22E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.48E-0571.56E-01101.01E-07-5.48E-0561.33E-01101.01E-07-5.59E-0581.78E-01101.15E-07-5.59E-0581.78E-01101.04E-07-4.99E-0581.78E-01	10	1.08E-07	-5.48E-05	5	1.11E-01
101.05E-07-5.70E-0571.56E-01109.51E-08-5.78E-0512.22E-02109.96E-08-5.34E-0571.56E-01109.37E-08-4.39E-0536.67E-02109.17E-08-5.48E-0524.44E-02109.69E-08-5.34E-0512.22E-02109.69E-08-5.34E-0512.22E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0571.56E-01101.01E-07-5.34E-0561.33E-01101.01E-07-5.59E-0581.78E-01109.81E-08-5.70E-0524.44E-02101.04E-07-4.99E-0581.78E-01	10	9.68E-08	-5.59E-05	6	1.33E-01
109.51E-08-5.78E-0512.22E-02109.96E-08-5.34E-0571.56E-01109.37E-08-4.39E-0536.67E-02109.17E-08-5.48E-0524.44E-02109.69E-08-5.34E-0512.22E-02101.01E-07-5.34E-0536.67E-02101.01E-07-5.34E-0536.67E-02101.02E-07-5.48E-0571.56E-01101.01E-07-5.34E-0561.33E-01101.15E-07-5.59E-0581.78E-01109.81E-08-5.70E-0524.44E-02101.04E-07-4.99E-0581.78E-01	10	1.05E-07	-5.70E-05	7	1.56E-01
109.96E-08-5.34E-0571.56E-01109.37E-08-4.39E-0536.67E-02109.17E-08-5.48E-0524.44E-02109.69E-08-5.34E-0512.22E-02101.01E-07-5.34E-0536.67E-02101.02E-07-5.48E-0571.56E-01101.01E-07-5.34E-0561.33E-01101.15E-07-5.59E-0581.78E-01101.15E-07-5.70E-0524.44E-02101.04E-07-4.99E-0581.78E-01	10	9.51E-08	-5.78E-05	1	2.22E-02
109.37E-08-4.39E-0536.67E-02109.17E-08-5.48E-0524.44E-02109.69E-08-5.34E-0512.22E-02101.01E-07-5.34E-0536.67E-02101.02E-07-5.48E-0571.56E-01101.01E-07-5.34E-0561.33E-01101.01E-07-5.59E-0581.78E-01101.15E-07-5.70E-0524.44E-02101.04E-07-4.99E-0581.78E-01	10	9.96E-08	-5.34E-05	7	1.56E-01
109.17E-08-5.48E-0524.44E-02109.69E-08-5.34E-0512.22E-02101.01E-07-5.34E-0536.67E-02101.02E-07-5.48E-0571.56E-01101.01E-07-5.34E-0561.33E-01101.15E-07-5.59E-0581.78E-01109.81E-08-5.70E-0524.44E-02101.04E-07-4.99E-0581.78E-01	10	9.37E-08	-4.39E-05	3	6.67E-02
10         9.69E-08         -5.34E-05         1         2.22E-02           10         1.01E-07         -5.34E-05         3         6.67E-02           10         1.02E-07         -5.48E-05         7         1.56E-01           10         1.01E-07         -5.34E-05         6         1.33E-01           10         1.01E-07         -5.34E-05         6         1.33E-01           10         1.15E-07         -5.59E-05         8         1.78E-01           10         9.81E-08         -5.70E-05         2         4.44E-02           10         1.04E-07         -4.99E-05         8         1.78E-01	10	9.17E-08	-5.48E-05	2	4.44E-02
10         1.01E-07         -5.34E-05         3         6.67E-02           10         1.02E-07         -5.48E-05         7         1.56E-01           10         1.01E-07         -5.34E-05         6         1.33E-01           10         1.15E-07         -5.59E-05         8         1.78E-01           10         9.81E-08         -5.70E-05         2         4.44E-02           10         1.04E-07         -4.99E-05         8         1.78E-01	10	9.69E-08	-5.34E-05	1	2.22E-02
10         1.02E-07         -5.48E-05         7         1.56E-01           10         1.01E-07         -5.34E-05         6         1.33E-01           10         1.15E-07         -5.59E-05         8         1.78E-01           10         9.81E-08         -5.70E-05         2         4.44E-02           10         1.04E-07         -4.99E-05         8         1.78E-01	10	1.01E-07	-5.34E-05	3	6.67E-02
10         1.01E-07         -5.34E-05         6         1.33E-01           10         1.15E-07         -5.59E-05         8         1.78E-01           10         9.81E-08         -5.70E-05         2         4.44E-02           10         1.04E-07         -4.99E-05         8         1.78E-01	10	1.02E-07	-5.48E-05	7	1.56E-01
10         1.15E-07         -5.59E-05         8         1.78E-01           10         9.81E-08         -5.70E-05         2         4.44E-02           10         1.04E-07         -4.99E-05         8         1.78E-01	10	1.01E-07	-5.34E-05	6	1.33E-01
10         9.81E-08         -5.70E-05         2         4.44E-02           10         1.04E-07         -4.99E-05         8         1.78E-01	10	1.15E-07	-5.59E-05	8	1.78E-01
10 1.04E-07 -4.99E-05 8 1.78E-01	10	9.81E-08	-5.70E-05	2	4.44E-02
	10	1.04E-07	-4.99E-05	8	1.78E-01

10	1.04E-07	-5.78E-05	6	1.33E-01
10	1.35E-07	-4.39E-05	7	1.56E-01
10	1.20E-07	-5.34E-05	5	1.11E-01
10	1.07E-07	-4.75E-05	1	2.22E-02
10	1.32E-07	-4.75E-05	6	1.33E-01
10	1.08E-07	-3.80E-05	4	8.89E-02
10	1.06E-07	-5.19E-05	5	1.11E-01
10	1.27E-07	-4.99E-05	5	1.11E-01
10	1.09E-07	-5.59E-05	2	4.44E-02
10	9.74E-08	-3.80E-05	4	8.89E-02
10	1.02E-07	-5.48E-05	4	8.89E-02
10	9.74E-08	-3.80E-05	5	1.11E-01
10	1.02E-07	-3.80E-05	8	1.78E-01
10	9.37E-08	-5.70E-05	6	1.33E-01
10	1.03E-07	-5.59E-05	7	1.56E-01
10	9.79E-08	-4.75E-05	4	8.89E-02
10	9.78E-08	-5.78E-05	4	8.89E-02
10	9.87E-08	-5.48E-05	1	2.22E-02
10	9.97E-08	-5.19E-05	2	4.44E-02
10	1.01E-07	-4.39E-05	9	2.00E-01
10	9.27E-08	-5.59E-05	6	1.33E-01
10	9.80E-08	-4.39E-05	8	1.78E-01
10	1.29E-07	-5.48E-05	7	1.56E-01
10	1.28E-07	-5.70E-05	5	1.11E-01
10	9.75E-08	-5.59E-05	4	8.89E-02
10	1.06E-07	-5.48E-05	5	1.11E-01
10	1.25E-07	-5.59E-05	6	1.33E-01
10	1.32E-07	-5.70E-05	7	1.56E-01
10	1.01E-07	-5.78E-05	1	2.22E-02
10	1.33E-07	-5.34E-05	7	1.56E-01
10	1.17E-07	-4.39E-05	3	6.67E-02
10	9.73E-08	-5.48E-05	2	4.44E-02
10	9.77E-08	-5.34E-05	1	2.22E-02
10	1.01E-07	-5.34E-05	3	6.67E-02
10	1.05E-07	-5.48E-05	7	1.56E-01
10	1.20E-07	-5.34E-05	6	1.33E-01
10	1.10E-07	-5.59E-05	8	1.78E-01
10	9.73E-08	-5.70E-05	2	4.44E-02
10	1.01E-07	-4.99E-05	8	1.78E-01
10	1.27E-07	-5.78E-05	6	1.33E-01
10	1.05E-07	-4.39E-05	7	1.56E-01
10	1.04E-07	-5.34E-05	5	1.11E-01
10	1.06E-07	-4.75E-05	1	2.22E-02
10	1.05E-07	-4.75E-05	6	1.33E-01

10	1.36E-07	-3.80E-05	4	8.89E-02
10	9.52E-08	-5.19E-05	5	1.11E-01
10	9.93E-08	-4.99E-05	5	1.11E-01
10	1.02E-07	-5.59E-05	2	4.44E-02
10	1.23E-07	-3.80E-05	4	8.89E-02
10	1.02E-07	-5.48E-05	4	8.89E-02
10	1.02E-07	-3.80E-05	5	1.11E-01
10	1.18E-07	-3.80E-05	8	1.78E-01
10	9.32E-08	-5.70E-05	6	1.33E-01
10	1.11E-07	-5.59E-05	7	1.56E-01
10	1.01E-07	-4.75E-05	4	8.89E-02
10	1.01E-07	-5.78E-05	4	8.89E-02
10	1.06E-07	-5.48E-05	1	2.22E-02
10	1.02E-07	-5.19E-05	2	4.44E-02
10	1.04E-07	-4.39E-05	9	2.00E-01
10	1.04E-07	-5.59E-05	6	1.33E-01
10	1.03E-07	-4.39E-05	8	1.78E-01
10	1.06E-07	-5.48E-05	7	1.56E-01
10	1.14E-07	-5.70E-05	5	1.11E-01
10	1.06E-07	-5.59E-05	4	8.89E-02
10	1.10E-07	-5.48E-05	5	1.11E-01
10	1.40E-07	-5.59E-05	6	1.33E-01
10	1.18E-07	-5.70E-05	7	1.56E-01
10	1.09E-07	-5.78E-05	1	2.22E-02
10	1.37E-07	-5.34E-05	7	1.56E-01
10	1.03E-07	-4.39E-05	3	6.67E-02
10	1.03E-07	-5.48E-05	2	4.44E-02
10	1.31E-07	-5.34E-05	1	2.22E-02
10	1.10E-07	-5.34E-05	3	6.67E-02
10	1.32E-07	-5.48E-05	7	1.56E-01
10	1.04E-07	-5.34E-05	6	1.33E-01
10	9.95E-08	-5.59E-05	8	1.78E-01
10	1.24E-07	-5.70E-05	2	4.44E-02
10	1.01E-07	-4.99E-05	8	1.78E-01
10	1.01E-07	-5.78E-05	6	1.33E-01
10	1.33E-07	-4.39E-05	7	1.56E-01
10	1.08E-07	-5.34E-05	5	1.11E-01
10	1.09E-07	-4.75E-05	1	2.22E-02
10	1.35E-07	-4.75E-05	6	1.33E-01
10	1.09E-07	-3.80E-05	4	8.89E-02
10	9.93E-08	-5.19E-05	5	1.11E-01
10	1.26E-07	-4.99E-05	5	1.11E-01
10	1.04E-07	-5.59E-05	2	4.44E-02
10	1.23E-07	-3.80E-05	4	8.89E-02
	L	l		

10	1.03E-07	-5.48E-05	4	8.89E-02
11	1.29E-07	-3.80E-05	5	1.11E-01
11	1.32E-07	-3.80E-05	8	1.78E-01
11	1.19E-07	-5.70E-05	6	1.33E-01
11	1.22E-07	-5.59E-05	7	1.56E-01
11	1.28E-07	-4.75E-05	4	8.89E-02
11	1.26E-07	-5.78E-05	4	8.89E-02
11	1.27E-07	-5.48E-05	1	2.22E-02
11	1.29E-07	-5.19E-05	2	4.44E-02
11	1.37E-07	-4.39E-05	9	2.00E-01
11	1.23E-07	-5.59E-05	6	1.33E-01
11	1.43E-07	-4.39E-05	8	1.78E-01
11	1.65E-07	-5.48E-05	7	1.56E-01
11	1.47E-07	-5.70E-05	5	1.11E-01
11	1.33E-07	-5.59E-05	4	8.89E-02
11	1.41E-07	-5.48E-05	5	1.11E-01
11	1.55E-07	-5.59E-05	6	1.33E-01
11	1.40E-07	-5.70E-05	7	1.56E-01
11	1.40E-07	-5.78E-05	1	2.22E-02
11	1.49E-07	-5.34E-05	7	1.56E-01
11	1.29E-07	-4.39E-05	3	6.67E-02
11	1.25E-07	-5.48E-05	2	4.44E-02
11	1.26E-07	-5.34E-05	1	2.22E-02
11	1.35E-07	-5.34E-05	3	6.67E-02
11	1.41E-07	-5.48E-05	7	1.56E-01
11	1.30E-07	-5.34E-05	6	1.33E-01
11	1.03E-07	-5.59E-05	8	1.78E-01
11	1.01E-07	-5.70E-05	2	4.44E-02
11	1.07E-07	-4.99E-05	8	1.78E-01
11	1.05E-07	-5.78E-05	6	1.33E-01
11	1.06E-07	-4.39E-05	7	1.56E-01
11	1.09E-07	-5.34E-05	5	1.11E-01
11	1.12E-07	-4.75E-05	1	2.22E-02
11	1.04E-07	-4.75E-05	6	1.33E-01
11	1.10E-07	-3.80E-05	4	8.89E-02
11	9.89E-08	-5.19E-05	5	1.11E-01
11	9.99E-08	-4.99E-05	5	1.11E-01
11	1.31E-07	-5.59E-05	2	4.44E-02
11	9.67E-08	-3.80E-05	4	8.89E-02
11	1.00E-07	-5.48E-05	4	8.89E-02
11	1.03E-07	-3.80E-05	5	1.11E-01
11	1.05E-07	-3.80E-05	8	1.78E-01
11	8.87E-08	-5.70E-05	6	1.33E-01
11	1.02E-07	-5.59E-05	7	1.56E-01

11	9.08E-08	-4.75E-05	4	8.89E-02
11	9.43E-08	-5.78E-05	4	8.89E-02
11	9.21E-08	-5.48E-05	1	2.22E-02
11	9.48E-08	-5.19E-05	2	4.44E-02
11	9.56E-08	-4.39E-05	9	2.00E-01
11	8.81E-08	-5.59E-05	6	1.33E-01
11	9.32E-08	-4.39E-05	8	1.78E-01
11	9.62E-08	-5.48E-05	7	1.56E-01
11	9.69E-08	-5.70E-05	5	1.11E-01
11	9.11E-08	-5.59E-05	4	8.89E-02
11	1.03E-07	-5.48E-05	5	1.11E-01
11	9.73E-08	-5.59E-05	6	1.33E-01
11	1.07E-07	-5.70E-05	7	1.56E-01
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11	9.49E-08	-5.34E-05	1	2.22E-02
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11	1.00E-07	-5.48E-05	7	1.56E-01
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11	1.10E-07	-5.78E-05	6	1.33E-01
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11	1.20E-07	-5.34E-05	5	1.11E-01
11	1.08E-07	-4.75E-05	1	2.22E-02
11	1.32E-07	-4.75E-05	6	1.33E-01
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11	9.88E-08	-5.19E-05	5	1.11E-01
11	1.29E-07	-4.99E-05	5	1.11E-01
11	1.09E-07	-5.59E-05	2	4.44E-02
11	9.70E-08	-3.80E-05	4	8.89E-02
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11	9.84E-08	-3.80E-05	5	1.11E-01
11	1.03E-07	-3.80E-05	8	1.78E-01
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11	9.88E-08	-5.78E-05	4	8.89E-02
11	9.82E-08	-5.48E-05	1	2.22E-02
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11	1.00E-07	-4.39E-05	9	2.00E-01

11	9.39E-08	-5.59E-05	6	1.33E-01
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11	1.00E-07	-5.70E-05	5	1.11E-01
11	9.67E-08	-5.59E-05	4	8.89E-02
11	1.07E-07	-5.48E-05	5	1.11E-01
11	1.25E-07	-5.59E-05	6	1.33E-01
11	1.32E-07	-5.70E-05	7	1.56E-01
11	1.00E-07	-5.78E-05	1	2.22E-02
11	1.28E-07	-5.34E-05	7	1.56E-01
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11	1.03E-07	-5.34E-05	5	1.11E-01
11	1.06E-07	-4.75E-05	1	2.22E-02
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11	1.34E-07	-3.80E-05	4	8.89E-02
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11	1.00E-07	-5.59E-05	2	4.44E-02
- 11	1.16E-07	-3.80E-05	4	8.89E-02
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11	1.02E-07	-4.39E-05	9	2.00E-01
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11	1.37E-07	-5.70E-05	5	1.11E-01
11	1.07E-07	-5.59E-05	4	8.89E-02

11	1.10E-07	-5.48E-05	5	1.11E-01
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11	1.31E-07	-5.48E-05	7	1.56E-01
11	1.04E-07	-5.34E-05	6	1.33E-01
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11	1.09E-07	-5.34E-05	5	1.11E-01
11	1.16E-07	-4.75E-05	1	2.22E-02
11	1.33E-07	-4.75E-05	6	1.33E-01
11	1.10E-07	-3.80E-05	4	8.89E-02
11	9.87E-08	-5.19E-05	5	1.11E-01
11	1.26E-07	-4.99E-05	5	1.11E-01
11	1.04E-07	-5.59E-05	2	4.44E-02
11	1.24E-07	-3.80E-05	4	8.89E-02
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12	1.37E-07	-5.48E-05	7	1.56E-01
12	1.34E-07	-5.70E-05	5	1.11E-01
12	1.29E-07	-5.59E-05	4	8.89E-02
12	1.40E-07	-5.48E-05	5	1.11E-01
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12	1.35E-07	-4.39E-05	3	6.67E-02
12	1.26E-07	-5.48E-05	2	4.44E-02
12	1.28E-07	-5.34E-05	1	2.22E-02
12	1.37E-07	-5.34E-05	3	6.67E-02
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12	1.06E-07	-5.34E-05	5	1.11E-01
12	1.10E-07	-4.75E-05	1	2.22E-02
12	1.05E-07	-4.75E-05	6	1.33E-01
12	1.08E-07	-3.80E-05	4	8.89E-02
12	9.69E-08	-5.19E-05	5	1.11E-01
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12	9.28E-08	-5.48E-05	1	2.22E-02
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12	9.98E-08	-4.39E-05	9	2.00E-01
12	9.10E-08	-5.59E-05	6	1.33E-01
12	9.26E-08	-4.39E-05	8	1.78E-01
12	1.03E-07	-5.48E-05	7	1.56E-01
12	1.02E-07	-5.70E-05	5	1.11E-01
12	9.23E-08	-5.59E-05	4	8.89E-02
12	1.01E-07	-5.48E-05	5	1.11E-01
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12	1.14E-07	-5.70E-05	7	1.56E-01
12	9.54E-08	-5.78E-05	1	2.22E-02
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12	9.16E-08	-5.48E-05	2	4.44E-02
12	9.45E-08	-5.34E-05	1	2.22E-02
12	9.87E-08	-5.34E-05	3	6.67E-02
12	9.98E-08	-5.48E-05	7	1.56E-01

12	1.00E-07	-5.34E-05	6	1.33E-01
12	1.06E-07	-5.59E-05	8	1.78E-01
12	9.99E-08	-5.70E-05	2	4.44E-02
12	1.04E-07	-4.99E-05	8	1.78E-01
12	1.03E-07	-5.78E-05	6	1.33E-01
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12	1.12E-07	-5.34E-05	5	1.11E-01
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12	1.07E-07	-3.80E-05	4	8.89E-02
12	1.01E-07	-5.19E-05	5	1.11E-01
12	1.26E-07	-4.99E-05	5	1.11E-01
12	1.15E-07	-5.59E-05	2	4.44E-02
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12	9.28E-08	-5.70E-05	6	1.33E-01
12	1.05E-07	-5.59E-05	7	1.56E-01
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12	9.95E-08	-5.78E-05	4	8.89E-02
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12	1.30E-07	-5.48E-05	7	1.56E-01
12	1.01E-07	-5.70E-05	5	1.11E-01
12	9.84E-08	-5.59E-05	4	8.89E-02
12	1.06E-07	-5.48E-05	5	1.11E-01
12	1.22E-07	-5.59E-05	6	1.33E-01
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12	1.02E-07	-5.48E-05	7	1.56E-01
12	1.26E-07	-5.34E-05	6	1.33E-01
12	9.87E-08	-5.59E-05	8	1.78E-01
12	9.73E-08	-5.70E-05	2	4.44E-02
12	1.22E-07	-4.99E-05	8	1.78E-01
12	1.16E-07	-5.78E-05	6	1.33E-01

12	1.20E-07	-4.39E-05	7	1.56E-01
12	1.04E-07	-5.34E-05	5	1.11E-01
12	1.07E-07	-4.75E-05	1	2.22E-02
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12	1.15E-07	-3.80E-05	4	8.89E-02
12	1.15E-07	-5.19E-05	5	1.11E-01
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12	1.01E-07	-5.59E-05	2	4.44E-02
12	9.77E-08	-3.80E-05	4	8.89E-02
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12	9.75E-08	-4.75E-05	4	8.89E-02
12	1.01E-07	-5.78E-05	4	8.89E-02
12	1.12E-07	-5.48E-05	1	2.22E-02
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12	1.30E-07	-4.39E-05	9	2.00E-01
12	9.54E-08	-5.59E-05	6	1.33E-01
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12	1.04E-07	-5.48E-05	7	1.56E-01
12	1.11E-07	-5.70E-05	5	1.11E-01
12	1.09E-07	-5.59E-05	4	8.89E-02
12	1.09E-07	-5.48E-05	5	1.11E-01
12	1.33E-07	-5.59E-05	6	1.33E-01
12	1.15E-07	-5.70E-05	7	1.56E-01
12	1.03E-07	-5.78E-05	1	2.22E-02
12	1.36E-07	-5.34E-05	7	1,56E-01
12	1.01E-07	-4.39E-05	3	6.67E-02
12	1.11E-07	-5.48E-05	2	4.44E-02
12	1.31E-07	-5.34E-05	1	2.22E-02
12	1.29E-07	-5.34E-05	3	6.67E-02
12	1.11E-07	-5.48E-05	7	1.56E-01
12	1.03E-07	-5.34E-05	6	1.33E-01
12	1.01E-07	-5.59E-05	8	1.78E-01
12	1.24E-07	-5.70E-05	2	4 44E-02
12	1.02E-07	-4.99E-05	8	1.78E-01
12	1.02E-07	-5.78E-05	6	1.33E-01
12	1.35E-07	-4.39E-05	7	1.56E-01
12	1.06E-07	-5.34E-05	5	1.11E-01
12	1.28E-07	-4.75E-05	1	2 225-02
12	1.06E-07	-4.75E-05	6	1.33E-01
12	1.10E-07	-3.80E-05	4	8 805.02
			•	0.071-02

12         1.25E-07         -4.99E-05         5         1.11E           12         1.03E-07         -5.59E-05         2         4.44E           12         1.25E-07         -3.80E-05         4         8.89E           12         1.01E-07         -5.48E-05         4         8.89E	-01 -02 -02
12         1.03E-07         -5.59E-05         2         4.44E           12         1.25E-07         -3.80E-05         4         8.89E           12         1.01E-07         -5.48E-05         4         8.89E	-02 -02
12         1.25E-07         -3.80E-05         4         8.89E           12         1.01E-07         -5.48E-05         4         8.89E	-02
12 1.01E-07 -5.48E-05 4 8.89E	
	-02
13 1.26E-07 -3.80E-05 5 1.11E	-01
13 1.32E-07 -3.80E-05 8 1.78E	-01
13 1.20E-07 -5.70E-05 6 1.33E	-01
13 1.34E-07 -5.59E-05 7 1.56E	-01
13 1.25E-07 -4.75E-05 4 8.89E	-02
13 1.26E-07 -5.78E-05 4 8.89E	-02
13 1.36E-07 -5.48E-05 1 2.22E	-02
13 1.44E-07 -5.19E-05 2 4.44E	-02
13 1.32E-07 -4.39E-05 9 2.00E	-01
13 1.36E-07 -5.59E-05 6 1.33E	-01
13 1.32E-07 -4.39E-05 8 1.78E	-01
13 1.31E-07 -5.48E-05 7 1.56E	-01
13 1.48E-07 -5.70E-05 5 1.11E	-01
13 1.32E-07 -5.59E-05 4 8.89E	-02
13 1.39E-07 -5.48E-05 5 1.11E	-01
13 1.31E-07 -5.59E-05 6 1.33E	-01
13 1.50E-07 -5.70E-05 7 1.56E	-01
13 1.44E-07 -5.78E-05 1 2.22E	-02
13 1.36E-07 -5.34E-05 7 1.56E	-01
13 1.31E-07 -4.39E-05 3 6.67E	-02
13 1.30E-07 -5.48E-05 2 4.44E	-02
13 1.27E-07 -5.34E-05 1 2.22E	-02
13 1.35E-07 -5.34E-05 3 6.67E-	-02
13 1.32E-07 -5.48E-05 7 1.56E-	-01
13 1.30E-07 -5.34E-05 6 1.33E-	-01
13 1.02E-07 -5.59E-05 8 1.78E-	-01
13 9.76E-08 -5.70E-05 2 4.44E	-02
13 1.15E-07 -4.99E-05 8 1.78E-	-01
13 1.05E-07 -5.78E-05 6 1.33E-	-01
13 1.08E-07 -4.39E-05 7 1.56E-	-01
13 1.19E-07 -5.34E-05 5 1.11E-	-01
13 1.09E-07 -4.75E-05 1 2.22E-	-02
13 1.04E-07 -4.75E-05 6 1.33E-	-01
13 1.10E-07 -3.80E-05 4 8.89E-	-02
13 9.79E-08 -5.19E-05 5 1.11E-	-01
13 1.02E-07 -4.99E-05 5 1.11E-	-01
13 1.01E-07 -5.59E-05 2 4.44E-	-02
13 9.74E-08 -3.80E-05 4 8.89E-	.02
13 9.97E-08 -5.48E-05 4 8.89E-	.02

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13	9.17E-08	-5.70E-05	6	1.33E-01
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13	9.18E-08	-5.78E-05	4	8.89E-02
13	9.26E-08	-5.48E-05	1	2.22E-02
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13	9.96E-08	-5.59E-05	6	1.33E-01
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13	9.40E-08	-5.70E-05	5	1.11E-01
13	9.11E-08	-5.59E-05	4	8.89E-02
13	1.01E-07	-5.48E-05	5	1.11E-01
13	9.67E-08	-5.59E-05	6	1.33E-01
13	1.11E-07	-5.70E-05	7	1.56E-01
13	9.44E-08	-5.78E-05	1	2.22E-02
13	9.94E-08	-5.34E-05	7	1.56E-01
13	9.38E-08	-4.39E-05	3	6.67E-02
13	9.15E-08	-5.48E-05	2	4.44E-02
13	9.30E-08	-5.34E-05	1	2.22E-02
13	9.91E-08	-5.34E-05	3	6.67E-02
13	9.95E-08	-5.48E-05	7	1.56E-01
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13	9.95E-08	-5.70E-05	2	4.44E-02
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13	1.35E-07	-4.39E-05	7	1.56E-01
13	1.12E-07	-5.34E-05	5	1.11E-01
13	1.08E-07	-4.75E-05	1	2.22E-02
13	1.06E-07	-4.75E-05	6	1.33E-01
13	1.10E-07	-3.80E-05	4	8.89E-02
13	1.03E-07	-5.19E-05	5	1.11E-01
13	1.28E-07	-4.99E-05	5	1.11E-01
13	1.01E-07	-5.59E-05	2	4.44E-02
13	9.77E-08	-3.80E-05	4	8.89E-02
13	1.27E-07	-5.48E-05	4	8.89E-02
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13	1.03E-07	-3.80E-05	8	1.78E-01
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13	9.90E-08	-5.48E-05	1	2.22E-02
13	1.01E-07	-5.19E-05	2	4.44E-02
13	1.01E-07	-4.39E-05	9	2.00E-01
13	1.19E-07	-5.59E-05	6	1.33E-01
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13	1.30E-07	-5.48E-05	7	1.56E-01
13	9.97E-08	-5.70E-05	5	1.11E-01
13	9.49E-08	-5.59E-05	4	8.89E-02
13	1.06E-07	-5.48E-05	5	1.11E-01
13	1.01E-07	-5.59E-05	6	1.33E-01
13	1.10E-07	-5.70E-05	7	1.56E-01
13	1.01E-07	-5.78E-05	1	2.22E-02
13	1.06E-07	-5.34E-05	7	1.56E-01
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13	9.78E-08	-5.48E-05	2	4.44E-02
13	1.24E-07	-5.34E-05	1	2.22E-02
13	1.02E-07	-5.34E-05	3	6.67E-02
13	1.03E-07	-5.48E-05	7	1.56E-01
13	1.27E-07	-5.34E-05	6	1.33E-01
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13	9.76E-08	-5.70E-05	2	4.44E-02
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13	9.98E-08	-5.78E-05	6	1.33E-01
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13	1.06E-07	-5.34E-05	5	1.11E-01
13	1.05E-07	-4.75E-05	1	2.22E-02
13	1.04E-07	-4.75E-05	6	1.33E-01
13	1.08E-07	-3.80E-05	4	8.89E-02
13	1.21E-07	-5.19E-05	5	1.11E-01
13	9.91E-08	-4.99E-05	5	1.11E-01
13	1.01E-07	-5.59E-05	2	4.44E-02
13	9.94E-08	-3.80E-05	4	8.89E-02
13	1.00E-07	-5.48E-05	4	8.89E-02
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13	1.09E-07	-5.48E-05	1	2.22E-02
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13	1.01E-07	-4.39E-05	9	2.00E-01
13	9.60E-08	-5.59E-05	6	1.33E-01

13	1.00E-07	-4.39E-05	8	1.78E-01
13	1.13E-07	-5.48E-05	7	1.56E-01
13	1.03E-07	-5.70E-05	5	1.11E-01
13	1.06E-07	-5.59E-05	4	8.89E-02
13	1.14E-07	-5.48E-05	5	1.11E-01
13	1.20E-07	-5.59E-05	6	1.33E-01
13	1.13E-07	-5.70E-05	7	1.56E-01
13	1.04E-07	-5.78E-05	1	2.22E-02
13	1.37E-07	-5.34E-05	7	1.56E-01
13	1.01E-07	-4.39E-05	3	6.67E-02
13	1.10E-07	-5.48E-05	2	4.44E-02
13	1.32E-07	-5.34E-05	1	2.22E-02
13	1.12E-07	-5.34E-05	3	6.67E-02
13	1.05E-07	-5.48E-05	7	1.56E-01
13	1.02E-07	-5.34E-05	6	1.33E-01
13	1.00E-07	-5.59E-05	8	1.78E-01
13	1.24E-07	-5.70E-05	2	4.44E-02
13	1.06E-07	-4.99E-05	8	1.78E-01
13	1.02E-07	-5.78E-05	6	1.33E-01
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13	1.08E-07	-5.34E-05	5	1.11E-01
13	1.36E-07	-4.75E-05	1	2.22E-02
13	1.10E-07	-4.75E-05	6	1.33E-01
13	1.13E-07	-3.80E-05	4	8.89E-02
13	9.85E-08	-5.19E-05	5	1.11E-01
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13	1.06E-07	-5.59E-05	2	4.44E-02
13	1.25E-07	-3.80E-05	4	8.89E-02
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14	1.26E-07	-3.80E-05	5	1.11E-01
14	1.31E-07	-3.80E-05	8	1.78E-01
14	1.20E-07	-5.70E-05	6	1.33E-01
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14	1.26E-07	-4.75E-05	4	8.89E-02
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14	1.28E-07	-4.39E-05	8	1.78E-01
14	1.36E-07	-5.48E-05	7	1.56E-01
14	1.44E-07	-5.70E-05	5	1.11E-01
14	1.35E-07	-5.59E-05	4	8.89E-02
14	1.42E-07	-5.48E-05	5	1.11E-01

14	1.30E-07	-5.59E-05	6	1.33E-01
14	1.35E-07	-5.70E-05	7	1.56E-01
14	1.40E-07	-5.78E-05	1	2.22E-02
14	1.40E-07	-5.34E-05	7	1.56E-01
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14	1.27E-07	-5.48E-05	2	4.44E-02
14	1.28E-07	-5.34E-05	1	2.22E-02
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14	1.31E-07	-5.34E-05	6	1.33E-01
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14	1.18E-07	-3.80E-05	4	8.89E-02
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14	9.92E-08	-3.80E-05	4	8.89E-02
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14	1.00E-07	-3.80E-05	5	1.11E-01
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14	1.02E-07	-4.39E-05	9	2.00E-01
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14	1.04E-07	-4.39E-05	8	1.78E-01
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14	1.06E-07	-5.59E-05	4	8.89E-02
14	1.34E-07	-5.48E-05	5	1.11E-01
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14	1.33E-07	-5.34E-05	3	6.67E-02
14	1.07E-07	-5.48E-05	7	1.56E-01
14	1.04E-07	-5.34E-05	6	1.33E-01
14	9.78E-08	-5.59E-05	8	1.78E-01
14	1.24E-07	-5.70E-05	2	4.44E-02
14	1.04E-07	-4.99E-05	8	1.78E-01
14	9.99E-08	-5.78E-05	6	1.33E-01
14	1.35E-07	-4.39E-05	7	1.56E-01

14	1.08E-07	-5.34E-05	5	1.11E-01
14	1.36E-07	-4.75E-05	1	2.22E-02
14	1.09E-07	-4.75E-05	6	1.33E-01
14	1.10E-07	-3.80E-05	4	8.89E-02
14	9.85E-08	-5.19E-05	5	1.11E-01
14	1.30E-07	-4.99E-05	5	1.11E-01
14	1.04E-07	-5.59E-05	2	4.44E-02
14	1.25E-07	-3.80E-05	4	8.89E-02
14	1.05E-07	-5.48E-05	4	8.89E-02
15	1.28E-07	-3.80E-05	5	1.11E-01
15	1.32E-07	-3.80E-05	8	1.78E-01
15	1.20E-07	-5.70E-05	6	1.33E-01
15	1.40E-07	-5.59E-05	7	1.56E-01
15	1.24E-07	-4.75E-05	4	8.89E-02
15	1.26E-07	-5.78E-05	4	8.89E-02
15	1.36E-07	-5.48E-05	1	2.22E-02
15	1.30E-07	-5.19E-05	2	4.44E-02
15	1.36E-07	-4.39E-05	9	2.00E-01
15	1.20E-07	-5.59E-05	6	1.33E-01
15	1.27E-07	-4.39E-05	8	1.78E-01
15	1.34E-07	-5.48E-05	7	1.56E-01
15	1.35E-07	-5.70E-05	5	1.11E-01
15	1.50E-07	-5.59E-05	4	8.89E-02
15	1.39E-07	-5.48E-05	5	1.11E-01
15	1.46E-07	-5.59E-05	6	1.33E-01
15	1.39E-07	-5.70E-05	7	1.56E-01
15	1.42E-07	-5.78E-05	1	2.22E-02
15	1.41E-07	-5.34E-05	7	1.56E-01
15	1.29E-07	-4.39E-05	3	6.67E-02
15	1.28E-07	-5.48E-05	2	4.44E-02
15	1.32E-07	-5.34E-05	1	2.22E-02
15	1.40E-07	-5.34E-05	3	6.67E-02
15	1.35E-07	-5.48E-05	7	1.56E-01
15	1.28E-07	-5.34E-05	6	1.33E-01
15	9.96E-08	-5.59E-05	8	1.78E-01
15	9.85E-08	-5.70E-05	2	4.44E-02
15	1.01E-07	-4.99E-05	8	1.78E-01
15	1.03E-07	-5.78E-05	6	1.33E-01
15	1.11E-07	-4.39E-05	7	1.56E-01
15	1.08E-07	-5.34E-05	5	1.11E-01
15	1.06E-07	-4.75E-05	1	2.22E-02
15	1.04E-07	-4.75E-05	6	1.33E-01
15	1.19E-07	-3.80E-05	4	8.89E-02
15	9.54E-08	-5.19E-05	5	1.11E-01

15	9.92E-08	-4.99E-05	5	1.11E-01
15	1.01E-07	-5.59E-05	2	4.44E-02
15	9.81E-08	-3.80E-05	4	8.89E-02
15	9.98E-08	-5.48E-05	4	8.89E-02
15	1.01E-07	-3.80E-05	5	1.11E-01
15	9.70E-08	-3.80E-05	8	1.78E-01
15	8.80E-08	-5.70E-05	6	1.33E-01
15	9.97E-08	-5.59E-05	7	1.56E-01
15	9.12E-08	-4.75E-05	4	8.89E-02
15	9.15E-08	-5.78E-05	4	8.89E-02
15	9.29E-08	-5.48E-05	1	2.22E-02
15	9.47E-08	-5.19E-05	2	4.44E-02
15	1.01E-07	-4.39E-05	9	2.00E-01
15	8.79E-08	-5.59E-05	6	1.33E-01
15	9.62E-08	-4.39E-05	8	1.78E-01
15	1.06E-07	-5.48E-05	7	1.56E-01
15	9.97E-08	-5.70E-05	5	1.11E-01
15	9.12E-08	-5.59E-05	4	8.89E-02
15	1.02E-07	-5.48E-05	5	1.11E-01
15	9.93E-08	-5.59E-05	6	1.33E-01
15	1.08E-07	-5.70E-05	7	1.56E-01
15	9.43E-08	-5.78E-05	1	2.22E-02
15	1.06E-07	-5.34E-05	7	1.56E-01
15	1.02E-07	-4.39E-05	3	6.67E-02
15	9.11E-08	-5.48E-05	2	4.44E-02
15	9.42E-08	-5.34E-05	1	2.22E-02
15	9.59E-08	-5.34E-05	3	6.67E-02
15	1.01E-07	-5.48E-05	7	1.56E-01
15	1.04E-07	-5.34E-05	6	1.33E-01
15	1.04E-07	-5.59E-05	8	1.78E-01
15	1.02E-07	-5.70E-05	2	4.44E-02
15	1.03E-07	-4.99E-05	8	1.78E-01
15	1.03E-07	-5.78E-05	6	1.33E-01
15	1.31E-07	-4.39E-05	7	1.56E-01
15	1.06E-07	-5.34E-05	5	1.11E-01
15	1.07E-07	-4.75E-05	1	2.22E-02
15	1.05E-07	-4.75E-05	6	1.33E-01
15	1.08E-07	-3.80E-05	4	8.89E-02
15	1.20E-07	-5.19E-05	5	1.11E-01
15	1.35E-07	-4.99E-05	5	1.11E-01
15	1.03E-07	-5.59E-05	2	4.44E-02
15	9.84E-08	-3.80E-05	4	8.89E-02
15	1.28E-07	-5.48E-05	4	8.89E-02
15	9.80E-08	-3.80E-05	5	1.11E-01
		L		

15	1.03E-07	-3.80E-05	8	1.78E-01
15	9.39E-08	-5.70E-05	6	1.33E-01
15	1.02E-07	-5.59E-05	7	1.56E-01
15	9.63E-08	-4.75E-05	4	8.89E-02
15	9.90E-08	-5.78E-05	4	8.89E-02
15	9.77E-08	-5.48E-05	1	2.22E-02
15	1.00E-07	-5.19E-05	2	4.44E-02
15	1.01E-07	-4.39E-05	9	2.00E-01
15	1.16E-07	-5.59E-05	6	1.33E-01
15	9.85E-08	-4.39E-05	8	1.78E-01
15	1.29E-07	-5.48E-05	7	1.56E-01
15	9.99E-08	-5.70E-05	5	1.11E-01
15	9.60E-08	-5.59E-05	4	8.89E-02
15	1.08E-07	-5.48E-05	5	1.11E-01
15	9.84E-08	-5.59E-05	6	1.33E-01
15	1.04E-07	-5.70E-05	7	1.56E-01
15	1.01E-07	-5.78E-05	1	2.22E-02
15	1.06E-07	-5.34E-05	7	1.56E-01
15	9.79E-08	-4.39E-05	3	6.67E-02
15	9.79E-08	-5.48E-05	2	4.44E-02
15	1.25E-07	-5.34E-05	1	2.22E-02
15	1.02E-07	-5.34E-05	3	6.67E-02
15	1.08E-07	-5.48E-05	7	1.56E-01
15	1.07E-07	-5.34E-05	6	1.33E-01
15	9.63E-08	-5.59E-05	8	1.78E-01
15	1.01E-07	-5.70E-05	2	4.44E-02
15	1.43E-07	-4.99E-05	8	1.78E-01
15	9.94E-08	-5.78E-05	6	1.33E-01
15	1.33E-07	-4.39E-05	7	1.56E-01
15	1.05E-07	-5.34E-05	5	1.11E-01
15	1.06E-07	-4.75E-05	1	2.22E-02
15	1.06E-07	-4.75E-05	6	1.33E-01
15	1.07E-07	-3.80E-05	4	8.89E-02
15	1.19E-07	-5.19E-05	5	1.11E-01
15	9.77E-08	-4.99E-05	5	1.11E-01
15	9.98E-08	-5.59E-05	2	4.44E-02
15	9.85E-08	-3.80E-05	4	8.89E-02
15	1.01E-07	-5.48E-05	4	8.89E-02
15	1.09E-07	-3.80E-05	5	1.11E-01
15	1.05E-07	-3.80E-05	8	1.78E-01
15	9.98E-08	-5.70E-05	6	1.33E-01
15	1.03E-07	-5.59E-05	7	1.56E-01
15	9.88E-08	-4.75E-05	4	8.89E-02
15	1.18E-07	-5.78E-05	4	8.89E-02

15	9.98E-08	-5.48E-05	1	2.22E-02
15	1.11E-07	-5.19E-05	2	4.44E-02
15	1.02E-07	-4.39E-05	9	2.00E-01
15	1.01E-07	-5.59E-05	6	1.33E-01
15	1.06E-07	-4.39E-05	8	1.78E-01
15	1.10E-07	-5.48E-05	7	1.56E-01
15	1.06E-07	-5.70E-05	5	1.11E-01
15	1.06E-07	-5.59E-05	4	8.89E-02
15	1.44E-07	-5.48E-05	5	1.11E-01
15	1.14E-07	-5.59E-05	6	1.33E-01
15	1.14E-07	-5.70E-05	7	1.56E-01
15	1.03E-07	-5.78E-05	1	2.22E-02
15	1.08E-07	-5.34E-05	7	1.56E-01
15	1.02E-07	-4.39E-05	3	6.67E-02
15	1.35E-07	-5.48E-05	2	4.44E-02
15	1.29E-07	-5.34E-05	1	2.22E-02
15	1.41E-07	-5.34E-05	3	6.67E-02
15	1.03E-07	-5.48E-05	7	1.56E-01
15	1.03E-07	-5.34E-05	6	1.33E-01
15	1.01E-07	-5.59E-05	8	1.78E-01
15	1.26E-07	-5.70E-05	2	4.44E-02
15	1.02E-07	-4.99E-05	8	1.78E-01
15	9.97E-08	-5.78E-05	6	1.33E-01
15	1.35E-07	-4.39E-05	7	1.56E-01
15	1.07E-07	-5.34E-05	5	1.11E-01
15	1.68E-07	-4.75E-05	1	2.22E-02
15	1.10E-07	-4.75E-05	6	1.33E-01
15	1.10E-07	-3.80E-05	4	8.89E-02
15	9.88E-08	-5.19E-05	5	1.11E-01
15	1.26E-07	-4.99E-05	5	1.11E-01
15	1.05E-07	-5.59E-05	2	4.44E-02
15	1.25E-07	-3.80E-05	4	8.89E-02
15	1.04E-07	-5.48E-05	4	8.89E-02
15 15 15	1.05E-07 1.25E-07 1.04E-07	-5.59E-05 -3.80E-05 -5.48E-05	2 4 4	4.44E-02 8.89E-02 8.89E-02

## MATLAB CODE

choice=menu('Handover',... 'Simulation for different network size',... 'Creating Base Station List for Handover',... 'Handover Process',... 'Mobile Detection',... 'Exit'); if (choice == 1) clc; disp('Please after finishing first simulation re-run the program with Simulation for Mobility') disp(' Simulation for different network size'); clear; for t =1:20 % Initialize random number generator rand('state', t); randn('state', t); global n node; global rreq\_out rreq\_in rreq\_forward; global rreq\_out\_crosslayer rreq\_in\_crosslayer rreq\_forward\_crosslayer; global rrep\_out rrep\_in rrep\_forward; global rrep\_out\_crosslayer rrep\_in\_crosslayer rrep\_forward\_crosslayer rrep\_destination\_crosslayer; % Parameters apptype = 'dht\_searching'; %'crosslayer\_searching'; % or 'dht\_searching' log\_file = 'log\_crosslayer\_'; max\_time = 1000; % Simulation Time Second ntopo = 7;nsize = 4;itraffic = 15;for isize = 10:10:(10\*nsize)n = isize; maxx = sqrt(100\*100\*n/30);maxy = maxx; disp([' ===== Network size in Km = ' num2str(n) ' maxx = maxy = ' num2str(maxx) ' =====']); for itopo = 1:ntopo % Reset the parameters parameter; rand('state', itopo); randn('state', itopo); % Generate a random network topology node = topo(n, maxx, maxy, 0); node = [node, zeros(n, 2)]; Event\_list = []; for k=1:itraffic Event\_list(k).instant = 1+100\*k\*slot\_time; Event\_list(k).type = 'send\_app'; Event\_list(k).node = k; Event\_list(k).app.type = apptype; Event\_list(k).app.key = n+1-k; Event\_list(k).app.id1 = k; Event\_list(k).app.id2 = itopo; Event list(k).app.route = []; Event\_list(k).app.hopcount = 0; Event\_list(k).net = []; Event\_list(k).pkt = []; end % Run the simulation tstart = clock; run(Event\_list', max\_time, [log\_file, num2str(n)]); disp(sprintf('--- Network size in Km = %d, Base Station id =%d, Running time =%g \n', n, itopo, etime(clock, tstart))); % Log the numbers of RREQ and RREP n1=sum(rreq\_out); n2=sum(rreq\_in);

```
n3=sum(rreq_forward);
      n4=sum(rreq_out_crosslayer);
      n5=sum(rreq_in_crosslayer);
      n6=sum(rreq_forward_crosslayer);
      n7=sum(rrep_out);
      n8=sum(rrep_in);
      n9=sum(rrep_forward);
      n10=sum(rrep_out_crosslayer);
      n11=sum(rrep_in_crosslayer);
      n12=sum(rrep_forward_crosslayer);
      n13=sum(rrep_destination_crosslayer);
      fid = fopen([log_file num2str(n) '_rreqrrep'], 'a');
      if fid == -1, error(['Cannot open log file for RREQ and RREP']); end
      n13]);
      fclose(fid);
   end
 end
 % Process data generated by sim1.m (different network size)
 z=1.960; % 95% confidence interval % z=2.576; % 99% confidence interval
 z2 = 0.5; % confidence interval mark length
 log_file = 'log_crosslayer ';
 ntopo = 7;
 nsize = 2;
 itraffic = 15;
 successrate = [];
 responsetime = [];
 responsetimez = [];
 hopcount = [];
 hopcountz = [];
 rreqrrep = [];
 for isize = 10:10:(10+10*(nsize-1))
   n = isize;
   fid = fopen([log_file, num2str(n)], 'r');
   if fid == -1, error('Cannot open log file'); end
   a = fscanf(fid, '%d %d %g %d %d %d \n', [6, inf]);
   fclose(fid);
   a = sortrows(a', [1 2 3]);
  b = [];
  j = 0;
   for i = 1:(size(a, 1)-1)
     if sum(a(i, [1 2 5 6])==a(i+1, [1 2 5 6]))==4 && a(i, 4)==0
       % got reply
       ttime = a(i+1, 3) - a(i, 3);
       thop = a(i+1, 4);
       j = j + 1;
       b(j, :) = [a(i, 1) a(i, 2) ttime thop];
       i = i + 1;
     end
  end
  k = n/10;
  successrate(k) = j/(itraffic*ntopo);
  if isempty(b)
    responsetime(k) = 0;
    response timez(k) = 0;
    hopcount(k) = 0;
    hopcountz(k) = 0;
  else
    responsetime(k) = mean(b(:, 3));
    responsetimez(k) = z*std(b(:, 3), 1, 1)/sqrt(j);
    hopcount(k) = mean(b(:, 4));
    hopcountz(k) = z*std(b(:, 4), 1, 1)/sqrt(j);
  end
  fid = fopen([log_file, num2str(n) '_rreqrrep'], 'r');
  if fid == -1, error('Cannot open log file'); end
  fclose(fid);
  a = sortrows(a', [1]);
  rreqrrep(k, :) = mean(a(:, 2:14), 1);
end
```

figure(1); hold on: set(gca,'Box','on'); PT = plot(10:10:nsize\*10, successrate \* 100, 'bo-', 'LineWidth', 2, 'MarkerFaceColor', 'b', 'MarkerSize', 5); Xla = xlabel('Occupied band width in MHZ'); set(Xla,'FontSize', 12); Yla = ylabel('Handover Request Succes Rate (%)'); set(Yla,'FontSize', 12); figure(2); hold on; set(gca,'Box','on'); PT = plot(10:10:nsize\*10, responsetime, 'bo-', 'LineWidth', 2, 'MarkerFaceColor', 'g', 'MarkerEdgeColor', 'k', 'MarkerSize', 5); Xla = xlabel('Network size in Km'); set(Xla,'FontSize', 12); Yla = ylabel('Response time (sec.)'); set(Yla,'FontSize', 12); for x=1:nsize  $i = 10 + 10^{*}(x-1);$ line([i, i], [responsetime(x)-responsetimez(x), responsetime(x)+responsetimez(x)], 'LineWidth', 0.5, 'Color', 'k', 'LineStyle', '-'); line([i-z2, i+z2], [responsetime(x)-responsetimez(x), responsetime(x)-responsetimez(x)], 'LineWidth', 1, 'Color', 'k'); line([i-z2, i+z2], [responsetime(x)+responsetimez(x), responsetime(x)+responsetimez(x)], 'LineWidth', 1, 'Color', 'k'); end figure(3); hold on; set(gca,'Box','on'); PT = plot(10:10:nsize\*10, hopcount, 'bo-', 'LineWidth', 2, 'MarkerFaceColor', 'g', 'MarkerEdgeColor', 'k', 'MarkerSize', 5); Xla = xlabel('Network size in Km'); set(Xla,'FontSize', 12); Yla = ylabel('Hop count'); set(Yla,'FontSize', 12); for x=1:nsize  $i = 10 + 10^{*}(x-1);$ line([i, i], [hopcount(x)-hopcountz(x), hopcount(x)+hopcountz(x)], 'LineWidth', 0.5, 'Color', 'k', 'LineStyle', '-'); line([i-z2, i+z2], [hopcount(x)-hopcountz(x), hopcount(x)-hopcountz(x)], 'LineWidth', 1, 'Color', 'k'); line([i-z2, i+z2], [hopcount(x)+hopcountz(x), hopcount(x)+hopcountz(x)], 'LineWidth', 1, 'Color', 'k'); end figure(4); hold on; set(gca,'Box','on'); PT = plot(10:10:nsize\*10, hopcount, 'bo-', 'LineWidth', 2, 'MarkerFaceColor', 'g', 'MarkerEdgeColor', 'k', 'MarkerSize', 5); Xla = xlabel('Network size in Km'); set(Xla,'FontSize', 12); Yla = ylabel('Hop count'); set(Yla,'FontSize', 12); for x=1:nsize i = 10 + 10\*(x-1);line([i, i], [hopcount(x)-hopcountz(x), hopcount(x)+hopcountz(x)], 'LineWidth', 0.5, 'Color', 'k', 'LineStyle', '-'); line([i-z2, i+z2], [hopcount(x)-hopcountz(x), hopcount(x)-hopcountz(x)], 'LineWidth', 1, 'Color', 'k'); line([i-z2, i+z2], [hopcount(x)+hopcountz(x), hopcount(x)+hopcountz(x)], 'LineWidth', 1, 'Color', 'k'); end figure(5); hold on; set(gca,'Box','on'); PT = plot(10:10:nsize\*10, hopcount, 'bo-', 'LineWidth', 2, 'MarkerFaceColor', 'g', 'MarkerEdgeColor', 'k', 'MarkerSize', 5); Xla = xlabel('Network size in Km'); set(Xla,'FontSize', 12); Yla = ylabel('Hop count'); set(Yla,'FontSize', 12); for x=1:nsize  $i = 10 + 10^{*}(x-1);$ line([i, i], [hopcount(x)-hopcountz(x), hopcount(x)+hopcountz(x)], 'LineWidth', 0.5, 'Color', 'k', 'LineStyle', '-'); line([i-z2, i+z2], [hopcount(x)-hopcountz(x), hopcount(x)-hopcountz(x)], 'LineWidth', 1, 'Color', 'k'); line([i-z2, i+z2], [hopcount(x)+hopcountz(x), hopcount(x)+hopcountz(x)], 'LineWidth', 1, 'Color', 'k'); end return; end end if (choice == 2) % all our 15 mobiles are in Cell No. 1 tic % Simulation for mobility

clear all clc % Initialize random number generator for f=1:40 %rand('state', h); %randn('state', h); global n node; global rreq\_out rreq\_in rreq\_forward; global rreq\_out\_crosslayer rreq\_in\_crosslayer rreq\_forward\_crosslayer; global rrep\_out rrep\_in rrep\_forward; global rrep\_out\_crosslayer rrep\_in\_crosslayer rrep\_forward\_crosslayer rrep\_destination\_crosslayer; global mobility\_model pos maxspeed maxpause; global maxx maxy; % Parameters apptype = 'dht\_searching'; % 'crosslayer\_searching'; % or 'dht\_searching' log\_file = 'log\_mobility\_crosslayer\_'; n = 150;maxx = 5000; maxy = 5000; nmobility = 15; nrepeat = 2;interval = 1/10000000; % microsecond itraffic = 15; max\_time = 100 + interval \* (nrepeat + 1);basecapacity = 45; % the capacity for each base station for imobility = 1:nmobility % Use the same initial topology rand('state', f); randn('state', f); % Generate a random network topology node = topo(n, maxx, maxy, 0); node = [node, zeros(n, 2)];% Reset the parameters parameter; % Set parameters for mobility mobility\_model = 'random\_waypoint'; maxpause = 1; maxspeed = imobility; Base Station ID = ' num2str(maxspeed) ' =====']); disp([' ==== % Initialize and start mobility position init; clear Event\_list; for k=1:itraffic clear tempe; tempe.instant = 1 + 100\*k\*slot\_time; tempe.type = 'send\_app'; tempe.node = k; tempe.app.type = apptype; tempe.app.key = n+1-k; tempe.app.id1 = k; tempe.app.id2 = 0; tempe.app.route = []; tempe.app.hopcount = 0; tempe.net = []; tempe.pkt = []; for h = 1:nrepeat tempe.instant = tempe.instant + interval; tempe.app.id2 = h; Event\_list((k-1)\*nrepeat+h) = tempe; end end % Run the simulation tic; tstart = clock: run(Event\_list', max\_time, [log\_file, num2str(maxspeed)]); disp(sprintf('---Base Station ID = %d, Handover time =%g \n', maxspeed, etime(clock, tstart))); % Log the numbers of RREQ and RREP nl=sum(rreq\_out); n2=sum(rreq\_in); n3=sum(rreq\_forward); n4=sum(rreq\_out\_crosslayer); n5=sum(rreq\_in\_crosslayer); n6=sum(rreq\_forward\_crosslayer);

n7=sum(rrep\_out); n8=sum(rrep\_in); n9=sum(rrep\_forward); n10=sum(rrep\_out\_crosslayer); nll=sum(rrep\_in\_crosslayer); n12=sum(rrep\_forward\_crosslayer); n13=sum(rrep\_destination\_crosslayer); fid = fopen([log\_file num2str(maxspeed) '\_rreqrrep'], 'a'); if fid == -1, error(['Cannot open log file for RREQ and RREP']); end %Calculating Base Station Load Ration  $N_on_state = randi(5,1,1);$ N\_on\_state; beta = randint(1); N\_hold\_state = randi(5,1,1); % Nho is the number of sending request N ho = n7; baseload = (N\_on\_state)+beta\*[N\_hold\_state]+ [N\_ho]; n15=baseload; load ration=n15/basecapacity; D = randi(10, 1, 1);DistanceMsr=D; %%%%Parameters Setting%%%%%% clc; %DistanceMsr=6 LightSpeedC=3e8; BlueTooth=2400\*1000000;%hz Zigbee=915.0e6;%hz Freq=BlueTooth; TXAntennaGain=1;%db RXAntennaGain=1;%db Dref=1;%Meter PTx=0.001;%watt sigma=6;%Sigma from 6 to 12 %Principles of communication systems simulation with wireless application P.548 mean=0; PathLossExponent=2;%Line Of sight Wavelength=LightSpeedC/Freq; PTxdBm=10\*log10(PTx\*1000); M = Wavelength / (4 \* pi \* Dref); Pr0=PTxdBm + TXAntennaGain + RXAntennaGain- (20\*log10(1/M)); rstate = randn('state'); randn('state', DistanceMsr); %GaussRandom=normrnd(0,6)%mean+randn\*sigma; %Help on randn GaussRandom= (randn\*0.1+0); %disp(GaussRandom); RSS=Pr0-(10\*PathLossExponent\* log10(DistanceMsr/Dref))+GaussRandom; n14=RSS; if maxspeed == 1 disp('Our original Base Station'); fclose(fid) else fprintf(fid, '%d %d %d %d \n', [maxspeed; etime(clock, tstart)/10000000; n14/1000000; n15]); fclose(fid); neighbour\_time=toc; end end end return end if (choice = 3) % Handover Process % Initialize random number generator for f=1:40 %rand('state', h): %randn('state'. h);

global n node; global rreq\_out rreq\_in rreq\_forward; global rreq\_out\_crosslayer rreq\_in\_crosslayer rreq\_forward\_crosslayer; global rrep\_out rrep\_in rrep\_forward; global rrep\_out\_crosslayer rrep\_in\_crosslayer rrep\_forward\_crosslayer rrep\_destination\_crosslayer; global mobility\_model pos maxspeed maxpause; global maxx maxy;

% Parameters

apptype = 'crosslayer\_searching'; % or 'dht\_searching'

log\_file = 'log\_mobility\_crosslayer\_'; n = 150; maxx = 100; maxy = 100;nmobility = 15; nrepeat = 2;interval = 10/1000000; % micro second itraffic = 10; max\_time = 100 + interval \* (nrepeat + 1); for imobility = 1:nmobility % Use the same initial topology rand('state', f); randn('state', f); % Generate a random network topology node = topo(n, maxx, maxy, 0); node = [node, zeros(n, 2)];% Reset the parameters parameter; % Set parameters for mobility mobility\_model = 'random\_waypoint'; maxpause = 1;maxspeed = imobility; disp([' ===== Base Station ID = ' num2str(maxspeed) ' =====']); % Initialize and start mobility position\_init; clear Event\_list; for k=1:itraffic clear tempe; tempe.instant = 1 + 100\*k\*slot\_time; tempe.type = 'send\_app'; tempe.node = k; tempe.app.type = apptype; tempe.app.key = n+1-k; tempe.app.id1 = k; tempe.app.id2 = 0; tempe.app.route = []; tempe.app.hopcount = 0;tempe.net = []; tempe.pkt = []; for h = 1:nrepeat tempe.instant = tempe.instant + interval; tempe.app.id2 = h; Event\_list((k-1)\*nrepeat+h) = tempe; end end % Run the simulation tic: tstart = clock; run(Event\_list', max\_time, [log\_file, num2str(maxspeed)]); disp(sprintf('---Base Station ID = %d, Handover time =%g \n', maxspeed, etime(clock, tstart))); % Log the numbers of RREQ and RREP nl=sum(rreq\_out); n2=sum(rreq\_in); n3=sum(rreq\_forward); n4=sum(rreq out crosslayer); n5=sum(rreq\_in\_crosslayer); n6=sum(rreq\_forward\_crosslayer); n7=sum(rrep\_out); n8=sum(rrep\_in); n9=sum(rrep\_forward); n10=sum(rrep\_out\_crosslayer);

n11=sum(rrep\_in\_crosslayer); n12=sum(rrep\_forward\_crosslayer); n13=sum(rrep\_destination\_crosslayer); fid = fopen([log\_file num2str(maxspeed) '\_rreqrrep'], 'a'); if num2str(maxspeed)=2 disp('Previous ID'); fclose(fid); else if fid == -1, error(['Cannot open log file for RREQ and RREP']); end %Calculating Base Station Load Ration  $N_on_state = randi(5,1,1);$ N\_on\_state; beta = randint(1); N\_hold\_state = randi(5,1,1); % Nho is the number of sending request  $N_{ho} = n7;$ baseload = (N\_on\_state)+beta\*[N\_hold\_state]+ [N\_ho]; n15=baseload: D = randi(10, 1, 1);DistanceMsr=D: %%%%Parameters Setting%%%%%% clc; %DistanceMsr=6 LightSpeedC=3e8; BlueTooth=2400\*1000000;%hz Zigbee=915.0e6;%hz Freq=BlueTooth; TXAntennaGain=1;%db RXAntennaGain=1;%db Dref=1;%Meter PTx=0.001;%watt sigma=6;%Sigma from 6 to 12 %Principles of communication systems simulation with wireless application P.548 mean=0; PathLossExponent=2;%Line Of sight Wavelength=LightSpeedC/Freq; PTxdBm=10\*log10(PTx\*1000); M = Wavelength / (4 \* pi \* Dref);Pr0=PTxdBm + TXAntennaGain + RXAntennaGain- (20\*log10(1/M)); rstate = randn('state'); randn('state', DistanceMsr); %GaussRandom=normrnd(0,6)%mean+randn\*sigma; %Help on randn GaussRandom= (randn\*0.1+0); %disp(GaussRandom); RSS=Pr0-(10\*PathLossExponent\* log10(DistanceMsr/Dref))+GaussRandom; n14=RSS; iteration=n7+n11; n21=iteration; fprintf(fid, '%d %d %d %d %d %d %d\n', [maxspeed; etime(clock, tstart)/10000000; n14/1000000; n15; n21; n15/45]); fclose(fid); toc; neighbour\_time=toc; end end end return end if (choice ==4) clear all %Generating received signal strength(rss) tic for tt = 1:15 clear all clc r= (5\*5)\*1000; % Area Range N=150; % No. of Mobile Stations

```
% Number of Base Stations
 S=15;
 %finding the coordinates for S sensor nodes
 x(1)=1;
y(1)=1;
p(1,:)=[x(1),y(1)];
for i=2:N
   x(i)=(i-1)*1.5*r;
   h(i)=(i-1)*sqrt(3)*r;
  y(i)=h(i)^2-x(i)^2;
  p(i,:)=[x(i),y(i)];
end
for i=1:S
   k=randint(1,1,[1 N]);
  P(i,:)=p(k,:);
end
 %finding the received signal strength captured by all sensor nodes
theta=2*pi*rand;
X=r*cos(theta);
Y=r*sin(theta);
M=[X,Y];
sum=0;
for i=1:S
  for j=1:2
    a=sum+(M(1,j)-P(i,j))^{2};
  end
  d(i)=sqrt(a);
end
d0=10;
n=4;
MRSS=-10*n*log(d0);
for i=1:S
  RSS(i)=(MRSS-10*n*log(d(i)/d0))/5;
end
%finding stongest rssi and generating mapping circle
for i=1:S
  d(i)=d0*10^((MRSS-RSS(i))/(10*n));
end
for i=1:S
  for j=1:2
   t(i,j)=(d(i))^2+M(1,j);
  end
end
[v p]=min(d);
xth = x(p)+d(p)*cos(theta);
yth=y(p)+d(p)*sin(theta);
%generate the cost function
cost
%finding minimum cost function and angle
for k=1:359
  if(p=1)
    cf(k)=sqrt(abs(e3(k)-e2(k)));
  elseif(p==2)
   cf(k)=sqrt(abs(e3(k)-e1(k)));
  else
    cf(k)=sqrt(abs(e2(k)-e1(k)));
  end
% subplot(3,1,3);
% plot(k,cf(k),'r.');
 hold on
 grid on
% xlabel('angle in degrees')
% ylabel('cost function')
% title('cost function with respect to change in angle')
end
[CF ang]=min(cf);
plot(ang,CF,'go');
Selegend('cost function','minimum cost function')
theta=ang;
D(1,:)=[x(p)+d(p)*\cos(\text{theta}),y(p)+d(p)*\sin(\text{theta})];
```

plot(t(1:3,1),t(1:3,2),'rs','MarkerEdgeColor','k',... 'MarkerFaceColor', 'g',... 'MarkerSize',4) grid on hold on xlabel('x co-ordinate of Mobile Station') ylabel('y co-ordinates of Mobile Station') legend plot(D(1,1),D(1,2),'bs','MarkerEdgeColor','k',... 'MarkerFaceColor', 'r', ... 'MarkerSize',7) h = plot(D(1,1),D(1,2),'o','MarkerSize',20,'MarkerFaceColor','b'); hold off %results RSS = xlsread('Final List.xlsx','sheet3','C5:C2188'); fprintf('RSSIs collected from 15 Base Stations =') t = xlsread('Final List.xlsx','sheet3','C5:C2188'); Base1=(t([1:160],:)); Base 1=count unique(Base1) Base2=(t([161:316],:)); Base\_2=count\_unique(Base2) Base3=(t([317:472],:)); Base\_3=count\_unique(Base3) Base4=(t([473:628],:)); Base\_4=count\_unique(Base4) Base5=(t([629:784],:)); Base\_5=count\_unique(Base5) Base6=(t([785:940],:)); Base\_6=count\_unique(Base6) Base7=(t([941:1096],:)); Base 7=count\_unique(Base7) Base9=(t([1097:1252],:)); Base\_9=count\_unique(Base9) Base10=(t([1253:1409],:)); Base\_10=count\_unique(Base10) Base11=(t([1410:1564],:)); Base 11=count unique(Base11) Base12=(t([1565:1720],:)); Base\_12=count\_unique(Base12) Base13=(t([1721:1876],:)); Base\_13=count\_unique(Base13) Base14=(t([1877:2032],:)); Base\_14=count\_unique(Base14) Base15=(t([2033:2188],:)); Base 15=count unique(Base15) A3 = xlsread('Final List.xlsx','sheet3','C5:C2188');  $V2 = count_unique(A3);$ RSS = V2;{' Signal strength collected from all base stations'} RSS A6 =xlsread('Final List.xlsx','sheet3','J12:J25'); HO1 = xlsread('Final List.xlsx','sheet3','J12'); HO2 = xlsread('Final List.xlsx','sheet3','J13'); HO3 = xlsread('Final List.xlsx','sheet3','J14'); HO4 = xlsread('Final List.xlsx','sheet3','J15'); HO5 = xlsread('Final List.xlsx','sheet3','J16'); HO6 = xlsread('Final List.xlsx','sheet3','J17'); HO7 = xlsread('Final List.xlsx','sheet3','J18'); HO9 = xlsread('Final List.xlsx','sheet3','J19'); HO10 = xlsread('Final List.xlsx','sheet3','J20'); HO11 = xlsread('Final List.xlsx', 'sheet3', 'J21'); HO12 = xlsread('Final List.xlsx','sheet3','J22'); HO13 = xlsread('Final List.xlsx','sheet3','J23'); HO14 = xlsread('Final List.xlsx','sheet3','J24'); HO15 = xlsread('Final List.xlsx','sheet3','J25'); Handover = [H01,H02, H03, H04, H05, H06, H07, H09, H010, H011, H012, H013, H014, H015]'; fprintf('distance of mobile user from all 15 Base Stations =') disp(d) % fprintf('minimum cost function and angle=') % disp([CF theta]) fprintf('co-ordinates of the new location of the mobile user are =')

disp(D)

disp('Distances away from the Base Stations'); d hos = RSS([1,2,3,4,5,6,7,9,10,11,12,13,14,15],:); A4 = xlsread('Final List.xlsx','sheet3','A5:A2188'); A4 = count unique(A4);A20 = xlsread('Final List.xlsx','sheet3','D5:D2188'); Base1=(A20([1:160],:)); Base\_1=count\_unique(Base1) Base2=(A20([161:316],:)); Base 2=count unique(Base3) Base3=(A20([317:472],:)); Base\_3=count\_unique(Base4) Base4=(A20([473:628],:)); Base\_4=count\_unique(Base4) Base5=(A20([629:784],:)); Base 5=count unique(Base5) Base6=(A20([785:940],:)); Base\_6=count\_unique(Base6) Base7=(A20([941:1096],:)); Base\_7=count\_unique(Base7) Base9=(A20([1097:1252],:)); Base 9=count\_unique(Base9) Base10=(A20([1253:1409],:)); Base\_10=count\_unique(Base10) Base11=(A20([1410:1564],:)); Base\_11=count\_unique(Base11) Base12=(A20([1565:1720],:)); Base\_12=count\_unique(Base12) Base13=(A20([1721:1876],:)); Base\_13=count\_unique(Base13) Base14=(A20([1877:2032],:)); Base\_14=count\_unique(Base14) Base15=(A20([2033:2188],:)); Base\_15=count\_unique(Base15) A22 = xlsread('Final List.xlsx','sheet3','E5:E2188'); V22 = count\_unique(A22); LOAD\_RATIO = V22; {' Load ratio collected from all base stations'} V23 = count\_unique(LOAD\_RATIO); V23=(V23([1:15],:)); V23 A23 = xlsread('Final List.xlsx','sheet3','D4:D1052'); V24 = count\_unique(A23); LOAD = V24;V24=(V24([1:15],:)); disp(' ') disp('Table of the Extractions ') fprintf('-----\n'); disp(' '); disp('Signal Strengths Distances Handover Time Iteration Load Ratio Load'); fprintf('-----\n'); fprintf(%10.4f %10.4f '); fprintf('-va = hos; [min1,j] = min(d'); [max1,b] = min(hos); menu('Mobile Station is in', j); Totalnodes='15'; % Total Numbr of Nodes n11=str2num(Totalnodes); %%Area Range to produce the range 5Km x 5Km min=200; max=500; for il=1:n11 if il=1 node(i1,:)=cat(2,i1+1:n11,n11); else node(i1,:)=floor(n11\*rand(1,n11))+1; end end o1 = floor(min + (max-min).\*rand(1,n11));

```
o2 = floor(min + (max-min).*rand(1,n11));
      figure(1)
       plot(01,02,'^','LineWidth',3,...
               'MarkerEdgeColor', 'k', ...
               'MarkerFaceColor','y',...
               'MarkerSize',39);
        grid;
        hold on
        for i=1:n11
        text(o1(i),o2(i),int2str(i),'FontSize',14);
        end
       hold on;
        base_station=7; % Base Stations
       frames = moviein(base_station);
       N=1000; % Radio Range
       Color='b';
      for i=1:250 % pointer speed
         cla
         axis([min-30 max+30 min-30 max+30])
        hold on
        plot(01,02,'^','LineWidth',2,...
             'MarkerEdgeColor', 'k',...
             'MarkerFaceColor','g',...
             'MarkerSize',39);
        title('Mobile Distribution');
        ylabel('Mobile Station Co-ordinates');
        xlabel('Mobile Station Co-ordinates');
        for ii=1:n11
          text(o1(ii),o2(ii),int2str(ii),'FontSize',8);
        end
      hold on
             plotpoint(i,[01(1) 01(j)],[02(1) 02(j)])
            plotpoint(i,[01(2) 01(j)],[02(2) 02(j)])
            plotpoint(i,[o1(3) o1(j)],[o2(3) o2(j)])
            plotpoint(i,[o1(6) o1(j)],[o2(6) o2(j)])
         hold on
         frames(:, i) = getframe;
    end
     save frames
   if va == -57.8439
   menu('Mobile Station is in', j);
   if va == -57.0210
     menu ('Mobile is in ', j+1);
     if va == -55.9133
        menu('Mobile is on', j+2);
        if va == -54.8435
        menu('Mobile is on', j+3);
        if va == -53.4215
          menu('Mobile is on', j+4);
          if va = -51.9266
             menu('Mobile is on', j+5);
          end
       end
       end
    end
 end
 if va == -49.9061
    menu('Mobile is on the overlap region');
 end
 end
  continue
end
return
end
toc
if (choice == 5)
     clear all;
    clc;
    close all;
end
```