ISMAIL RUHI UMAN

Personal data

Birth	:	23 February 1963, Istanbul, Turkey
Nationality	:	Turkish, Italian
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Education

July 2001 : **PhD** in physics (*Doctor Rerum Naturalium*)
Ludwig Maximilians Universität, Munich (Germany)
Honor: *magna cum laude.*
Thema :*Antiproton-proton annihilation in flight into $K^+K^-\pi^0$ final states.*
Field: Experimental Particle Physics
Experiment: Crystal Barrel (CERN)

Nov 1993 : **MS** degree in physics (*Laurea Magistrale*), Universitá degli Studi , Perugia (Italy)
Field: Experimental Particle Physics, Astroparticle
Thema : *Simulation studies of single and multiple muon flux at the LVD Detector.*
Experiment: LVD (Laboratori Nazionali del Gran Sasso)

Work Experience

Dec. 2013 - ... : **Associate Professor**
Doğuş Üniversitesi, Istanbul

Feb. 2011 - Dec. 2013 : **Assistant Professor**
Doğuş Üniversitesi, Istanbul

Mar. 2008 - Feb. 2011 : **Research Associate at CERN**
Sponsored by the German Bundesministerium für Bildung und Forschung.
Ludwig Maximilians Universität, Munich (Germany)
Field: Experimental Particle Physics
Experiment : COMPASS (CERN)

Mar. 2007 - Mar. 2008 : **Research Associate**
Sponsored by the DFG Cluster of Excellence.
Program: *Origin and Structure of the Universe* .
Field: Experimental Particle Physics
Experiment : COMPASS (CERN)

Jan. 2001 - Oct. 2005 : **Research Associate, Postdoctoral Fellow**
Northwestern University , Evanston, IL (USA)
Field: Experimental Particle Physics
Experiment : E835 (Fermilab)

May. 1996 - Dec. 2000: **Ph.D. work (***Doktorarbeit*)
Ludwig Maximilians Universität, Munich (Germany)
Field: Experimental Particle Physics
Experiment: Crystal Barrel (CERN)

Nov. 1993 - May. 1994: **Specialization in sub-nuclear physics**
Universitá degli studi, Perugia (Italy)
Field: Experimental Particle Physics, Astroparticle
Experiment: LVD (LNGS)

Languages

Italian : native language
English : TOEFL score: 92/120;
reading: 23/30, listening: 25/30, speaking: 22/30, writing: 22/30
Turkish : excellent
German: fair

Research experience

- Data analyses at the following medium and high energy physics experiments: Crystal Barrel at CERN, E835 at Fermilab, COMPASS at CERN and BESIII at IHEP (Beijing).
- Monte Carlo simulation of the data (GEANT geometry and tracking tool) of BESIII, COMPASS, CBAR, E835 and Large-Volume-Detector (LVD at Gran Sasso National Laboratory) experiments.
- Simulation of the following reactions: central production, diffractive scattering, antiproton-proton annihilations and charmonium decays.
- Hadron physics: light quark and charmonium spectroscopy.
- Dalitz plot analyses.
- Partial wave analyses.
- Simulation of partial waves.
- Observation and investigation of light quark resonances, glueballs, hybrids, tetraquark and $c\bar{c}$ mesons.
- Mass, width, spin and branching fraction determination of light quark resonances by maximum likelihood analysis of the data.
- Cosmic ray studies; composition and spectrum.
- Development of the off-line programs for the COMPASS detector: calibration of the electromagnetic calorimeter.
- Development of the off-line programs for the Crystal Barrel detector: calibration of the electromagnetic calorimeter and of the drift chambers.
- Development of the off-line programs of the LVD experiment: generation and acceptance calculation of multiple and single muons events.
- Set-up of the tracking system and conditioning of the streamer tubes of the LVD experiment.

Teaching experience

2012 - ..	:	Supervisor of diploma and PhD students in the BESIII experiment at IHEP.
2011 - ..	:	Lecturer of Physics I and II, Modern Physics, Statistical Physics and Statistics and Experimental Techniques for engineering and physics students at Dogus University.
2008 - 2010	:	Supervisor of diploma students in the COMPASS experiments at CERN.
1998 - 1999	:	Laboratory work (*Praktikum*) supervisor of first year physics students, Ludwig Maximilians Universität, Munich.

Computing experience

System Administration	:	Installation and administration of Windows and Linux (Fedora, Redhat, SUSE, Scientific Linux) on PC cluster. Installation and administration of Tru64 and Open Source Alphalinux on DEC alphastation cluster. Installation of server systems (authorization, routing, gateway)
Librarian work	:	Installation of the BESIII software at the Turkish Accelerator Center of Ankara University in Gölbaşı. Installation of the COMPASS software at GridKa (Grid Computing Center Kalsruhe). Generation and reconstruction of MC events.
Programming languages:		ASSEMBLER, BASIC, Fortran 77, Unix shell scripting, $C++$, Object-oriented programming.
Management tools	:	PATCHY, CMZ, CVS.
Editing	:	VI, Emacs, PAW, ROOT, Latex, Word, Powerpoint, Openoffice, XFig, Microsoft Office, Visio, MATLAB.
Operating Systems	:	VMS, OSF/1, IRIX, Tru64, Linux, Windows.

Most important contributions

- First observation and spin confirmation of $f_0(1710)$ in $\bar{p}p$ annihilation.
- Confirmation of the first candidate for the glueball ground state $f_0(1500)$.
- Branching ratios and cross sections measurements of glueball candidates.
- First observation of $f_2(2340)$ decaying in $\eta\eta$.
- Confirmation of $f_0(2020)$, $f_0(2100)$, $f_2(2150)$, $a_0(1450)$, $a_2(1700)$, $a_4(2240)$.

Main Research Interests

- Development of partial wave analysis methods in low and medium energy physics and in proton-antiproton annihilation, central production, diffractive scattering and charmonium decays.
- Search for hybrids with exotic mesons with quantum numbers not allowed for $q\bar{q}$ objects (eg.: $J^{PC} = 0^{--}, 0^{+-}, 1^{-+}, 2^{+-}, ...$). Search of hybrid mesons.

- Search for the tensor and other glueballs beyond 2.1 GeV.
- Search for tetra- and penta-quarks.

LIST OF PUBLICATIONS, PROCEEDINGS AND TECHNICAL NOTES

A complete list of publication (109 as of June 2015) can be found below:
`https://inspirehep.net/search?ln=en&p=find+a+uman%2C+i&of=hb&action_search=Search&sf=earliestdate&so=d` SPIRES entry
Number of citation: 1550 (from Web of Science).

Selected Publications

- C. Adolph *et al.* [COMPASS Collaboration], "Odd and even partial waves of $\eta\pi$ and $\eta'\pi$ in $\pi p \to \eta^{(\prime)}\pi p$ at 191 GeV/c," Phys. Lett. B **740**, 303 (2015)
- C. Amsler *et al.* [Crystal Barrel Collaboration], "Study of $K\bar{K}$ resonances in $\bar{p}p \to K^+K^-\pi^0$ at 900 and 1640 MeV/c," Phys. Lett. B **639**, 165 (2006).
- I. Uman, D. Joffe, Z. Metreveli, K. K. Seth, A. Tomaradze and P. Zweber, "Light Quark Resonances In $\bar{p}p$ Annihilations At 5.2 GeV/c," Phys. Rev. D **73**, 052009 (2006) [arXiv:hep-ex/0607034].
- M. Aglietta, B. Alpat, E. D. Alyea, P. Antonioli, G. Anzivino, G. Badino, Y. Ban and G. Bari *et al.*, "Single muon angular distributions observed in the LVD particle astrophysics experiment," Astropart. Phys. **2**, 103 (1994).

Conference proceedings

- I. Uman and T. Schlüter [COMPASS Collaboration], "Study of $\pi^- p \to \pi^-\eta p$ and $\pi^- p \to \pi^-\eta\eta p$ at $\sqrt{s} = 18.9$ GeV with the COMPASS experiment" Submitted to AIP. Prepared for HADRON 09: XIII International Conference on Hadron Spectroscopy, November 29 - December 4 2009.
- I. Uman [COMPASS Collaboration], "The Hadron Program at COMPASS," Submitted to Chinese Physics C. Prepared for QNP 09: The 5-th International Conference on Quarks and Nuclear Physics Beijing , September 21 - 26 Sep 2009.
- I. Uman [E835 Collaboration], "Observation of resonances in the reaction $\bar{p}p \to \eta\eta\pi^0$ at 5.2-GeV/c," AIP Conf. Proc. **717**, 94 (2004). Prepared for Hadron 03: 10th International Conference on Hadron Spectroscopy, Aschaffenburg, Germany, 31 Aug - 6 Sep 2003.
- I. Uman [Crystal Barrel Collaboration], "Resonances with hidden strangeness in $\bar{p}p \to K^+K^-\pi^0$ in flight," Nucl. Phys. A **692**, 302 (2001). Prepared for Biennial Conference on Low-Energy Antiproton Physics (LEAP 2000), Venice, Italy, 20-26 Aug 2000.

Technical Notes

- I. Uman, S.C. Dinter, E. Romero Adam for the Hadron Analysis Group "Study of diffractively and centrally produced resonances in $\pi^- p \to \pi^0 p$, $\pi^- p \to \pi^- \eta p$, $\pi^- p \to \pi^0 \pi^0 p$ and $\pi^- p \to \pi^- \eta \eta p$ at 190 GeV", COMPASS Release Note (2009)
- I.Uman and O.Kortner, Crystal Barrel Note 341 (1999) [www-meg.phys.cmu.edu/cb/cbnotes_main.html] unpublished
- I. Uman, Crystal Barrel Note 349 (2006) [www-meg.phys.cmu.edu/cb/cbnotes_main.html] unpublished