

## Curriculum vitae of M. Mudrinić

### Personal data

1. Name: **Mihajlo**
2. Surname: **Mudrinić**
3. Languages: Serbian and English
4. Profession: Scientist
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### Education and training

1. Bachelor of Science (B.Sc.) in Physics, (1990) University of Belgrade, Belgrade, Yugoslavia.
2. Master of Science (M.Sc.) in Physics, (1994) University of Belgrade, Belgrade, Yugoslavia.
3. Ph.D. in Physics, (1998) University of Belgrade, Belgrade, Yugoslavia.
4. Institute of Physics, University of Belgrade, Belgrade, Yugoslavia (1991 – 1999 Research Fellow).
5. Research School of Physical Sciences & Engineering, ANU, Canberra, Australia (1999 – 2000 Visiting Fellow).
6. Geodesy&GPS, Minerals & Geohazard Division of Geoscience Australia, Canberra, Australia (2000 – 2004 System Analyst/Scientific Support).
7. Professional Training, New Horizons Learning Centre, Canberra, Australia. (2003 Sun Certified System Administrator for Solaris 8).
8. Professional Training, Montreal General Hospital, McGill University, Montreal, Canada (2005 Medical Physics).
9. Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany, H1 Collaboration (2007,2008,2008,2010 Visiting Scientists as a member of H1 Collaboration)
10. The European Organisation for Nuclear Research (CERN), ATLAS Collaboration (2008,2008,2010 Visiting Scientists as a member of ATLAS Collaboration).
11. The European Organization for Nuclear Research (CERN), Software Development for Experiments Group, PH Department (Oct. 2010- Apr. 2011 Project Associate).

### Research activities

1. 1991-1994: Ion-Atom Collision – Study of sensitivity to inclusion of the long-range Coulomb effects in two-electron capture from helium by fast alpha particles.
2. 1994-1998: Nonlinear Physics – Stability analysis of particles trapped in magnetic confinement systems and description of the transport of particles through KAN surfaces in Hamiltonian systems.
3. 1999: Biophysics – Modeling humane body immune response with the system of nonlinear ordinary differential equations with time delay.
4. 2000: Nonlinear Optics - Numerical modeling of interaction of two incoherent laser beams derived from a frequency doubled Nd:YAG laser with Photorefractive Strontium-Barium-Niobate (SNB) crystal.
5. 2000-2004: Coordinating development, data communication, quality statistics and distribution requirements for Australian Regional GPS Network.
6. 2005-2006: Calibration methods for orthovoltage and megavoltage photon beams and megavoltage electron beams. Medical linear accelerators, cobalt units. X-ray generators in

radiology. Radiation detectors and counting systems. Mechanisms of scintillation. Scintillation detectors.

7. 2007-2010: High Energy Physics, member of H1 and ATLAS Experiments: Diffractive Dstar Analysis - measurement of diffractive charm reduced cross-section (sensitivity to gluon content). Monte Carlo simulation (H1 detector) - development and the coordination of the production on the LHC-Grid. Study of minimum bias collision events for the ATLAS Experiment.
8. 2010-2011: Cloud Computing – Development of virtual computer farm for the NA61 Experiment based on virtual software appliance for use by LHC experiments at CERN (CernVM)
9. 2011- present: Nonlinear Phenomena in Ion Channeling.

### Academic activities

1. Dragan Manić, Master thesis, mentor, 2009

### Organization of scientific conferences

1. Organizing Committee of the Workshop of the Collaboration on Forward Calorimetry at ILC”, 22-24 September 2008, Vinca, Belgrade, Serbia, member.

### Scientific publications

1. 84 articles in refereed international journals
2. 5 contributions at international conferences

### Up to ten most important publications

1. **Search for Supersymmetry Using Final States with One Lepton, Jets, and Missing Transverse Momentum with the ATLAS Detector in  $\sqrt{s}=7\text{ TeV}$  pp Collisions**, G. Aad, M. Mudrinic et. al. [ATLAS Collaboration], Phys. Rev. Lett. 106 131802 (2011).
2. **Measurement of Dijet Azimuthal Decorrelations in pp Collisions at  $\sqrt{s}=7\text{ TeV}$** , G. Aad, M. Mudrinic et. al. [ATLAS Collaboration], Phys. Rev. Lett. 106 172002 (2011).
3. **A Practical Approach to Virtualization in HEP**, P. Buncic, C. Aguado Sánchez, J. Blomer, A. Harutyunyan and M. Mudrinic, The European Physical Journal Plus, 2011, Volume 126, Number 1, 13.
4. **Observation of a Centrality-Dependent Dijet Asymmetry in Lead-Lead Collisions at  $\sqrt{s}=2.76\text{ TeV}$  with the ATLAS Detector at the LHC**, G. Aad, M. Mudrinic et. al. [ATLAS Collaboration], Phys. Rev. Lett. 105, 252303 (2010).
5. **Measurement of the  $D^{*\pm}$  meson production cross section and at high  $Q^2$  in ep scattering at HERA**, F. D. Aaron, M. Mudrinic et al. [H1 Collaboration], Phys. Lett. B 686(2-3) (March 2010) 91-100.
6. **A general search for new phenomena at HERA**, F. D. Aaron, M. Mudrinic, et al. [H1 Collaboration], Phys. Lett. B 674(4-5) (2009) 257-268.
7. **Measurement of the Proton Structure Function at low  $x$**  F. D. Aaron, M. Mudrinic, et al. [H1 Collaboration], Phys. Lett. B 665(4) (2008) 139-146.
8. **Time Delay in a Basic Model of the Immune Response**, N. Burić, M. Mudrinic and N. Vasović, Chaos, Solitons and Fractals 12, 483-489, (2001).
9. **Modular smoothing of action and transport in Hamiltonian systems**, N. Burić and M. Mudrinic, J. Phys. A 31, 1875, (1998).
10. **Two-electron capture from helium by fast alpha particles**, Dz. Belkić, I. Mancev and M. Mudrinic, Phys. Rev. A 49, 3646-3658, (1994).