CV Milan Radonjić

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Technical University of Kaiserslautern
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RESEARCH INTERESTS

- Open quantum systems
- Macroscopic quantum systems
- Condensates of light
- Photonic quantum simulators
- Hybrid quantum-classical systems
- Coherent and non-linear effects in atomic quantum optics

ACADEMIC CAREER

2018 – *Postdoctoral Fellow*, Department of Physics, TU Kaiserslautern, Germany
2015 – 2018 *Postdoctoral Fellow*, Faculty of Physics, University of Vienna, Austria
2014 – *Assistant Research Professor,* Institute of Physics Belgrade, Serbia
2010 – 2014 *Research Assistant,* Institute of Physics Belgrade, Serbia
2008 – 2010 *Junior researcher,* Institute of Physics Belgrade, Serbia

EDUCATION

2008 – 2013 *PhD in Physics,* Faculty of Physics, University of Belgrade, Serbia
Research field: Quantum Optics
Thesis title: "*Electromagnetically Induced Coherent Effects in Laser Excited Raman Resonances in Rubidium Vapor*", Advisor: Dr. Branislav Jelenković

2002 – 2007 *BSc in Physics (the best in the class)*, Faculty of Physics, University of Belgrade, Serbia
Thesis title: "*The Quantum Hall Effect in Graphene*", Advisor: Dr. Milica Milovanović

WORKING EXPERIENCE AND PROJECTS

2005 Technical University Ilmenau, Germany (summer student program)
2008 PhD scholarship of the Ministry of Science of the Republic of Serbia
2008 – 2009 FP6 project of the European Commission "Reinforcing research center for quantum and optical metrology", Institute of Physics Belgrade, Serbia
2009 – Employed at the Photonics Center of the Institute of Physics Belgrade, Serbia
2009 – 2011 "Quantum and optical interferometry", National research project
2011 – "Holographic methods for generation of specific wave fronts for efficient control of quantum coherent effects in laser-atom interaction", National research project
2011 – "Generation and characterization of nano-photonic functional structures in bio-medicine and informatics", National research project
2013 – 2014 "Numerical and Analytical Investigation of Dipolar Bose-Einstein Condensates", Bilateral research project, Serbian Ministry of Education & Science and DAAD
2014 – "Ramsey spectroscopy in Rb vapour cells and application to atomic clocks", SCOPES grant IZ73Z0_152511, Institute of Physics Belgrade, Serbia and Laboratoire Temps-Fréquence, Neuchâtel University, Switzerland
2015 – 2017 "Impurities in Bose-Einstein Condensates", Bilateral research project, Serbian Ministry of Education & Science and DAAD

INTERNATIONAL COOPERATION PARTNERS

- Axel Pelster, Physics Department and Research Center OPTIMAS, TU Kaiserslautern, Germany
- Tobias Brandes, Institut für Theoretische Physik, TU Berlin, Germany

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LIST OF MAIN PUBLICATIONS

1. M. Radonjić, D. Arsenović, Z. Grujić, and B. M. Jelenković, *Coherent population trapping linewidths for open transitions: Cases of different transverse laser intensity distribution*, Phys. Rev. A 79, 023805 (2009)
2. Nikola Burić and Milan Radonjić, *Uniquely defined geometric phase of an open system*, Phys. Rev. A 80, 014101 (2009)
3. M. Radonjić and B. M. Jelenković, *Stark-chirped rapid adiabatic passage among degenerate-level manifolds*, Phys. Rev. A 80, 043416 (2009)
4. M. M. Mijailović, Z. D. Grujić, M. Radonjić, D. Arsenović, and B. M. Jelenković, *Nonlinear magneto-optical rotation narrowing in vacuum gas cells due to interference between atomic dark states of two spatially separated laser beams*, Phys. Rev. A 80, 053819 (2009)
5. A. J. Krmpot, S. M. Ćuk, S. N. Nikolić, M. Radonjić, D. G. Slavov and B. M. Jelenković, *Dark Hanle resonances from selected segments of the Gaussian laser beam cross-section*, Optics Express 17, 22491 (2009)
6. S. M. Ćuk, M. Radonjić, A. J. Krmpot, S. N. Nikolić, Z. D. Grujić, and B. M. Jelenković, *Influence of laser beam profile on electromagnetically induced absorption*, Phys. Rev. A 82, 063802 (2010)
7. Milan Radonjić, Slobodan Prvanović, and Nikola Burić, *System of classical nonlinear oscillators as a coarse-grained quantum system*, Phys. Rev. A 84, 022103 (2011)
8. A. J. Krmpot, M. Radonjić, S. M. Ćuk, S. N. Nikolić, Z. D. Grujić, and B. M. Jelenković, *Evolution of dark state of an open atomic system in constant intensity laser field*, Phys. Rev. A 84, 043844 (2011)
9. M. Radonjić, S. Prvanović, and N. Burić, *Emergence of classical behavior from the quantum spin*, Phys. Rev. A 85, 022117 (2012)
10. M. Radonjić, S. Prvanović, and N. Burić, *Hybrid quantum-classical models as constrained quantum systems*, Phys. Rev. A 85, 064101 (2012)
11. N. Burić, I. Mendaš, D. B. Popović, M. Radonjić, and S. Prvanović, *Statistical ensembles in the Hamiltonian formulation of hybrid quantum-classical systems*, Phys. Rev. A 86, 034104 (2012)
12. Z. D. Grujić, M. M. Lekić, M. Radonjić, D. Arsenović and B. M. Jelenković, *Ramsey effects in coherent resonances at closed transition Fg = 2 → Fe = 3 of ^{87}Rb*, J. Phys. B 45, 245502 (2012)
13. S. N. Nikolić, M. Radonjić, A. J. Krmpot, N. M. Lučić, B. V. Zlatković and B. M. Jelenković, *Effects of a laser beam profile on Zeeman electromagnetically induced transparency in the Rb buffer gas cell*, J. Phys. B 46, 075501 (2013)
14. N. Burić, D. B. Popović, M. Radonjić, and S. Prvanović, *Hybrid quantum-classical model of quantum measurements*, Phys. Rev. A 87, 054101 (2013)
15. S. M. Ćuk, A. J. Krmpot, M. Radonjić, S. N. Nikolić and B. M. Jelenković, *Influence of a laser beam radial intensity distribution on Zeeman electromagnetically induced transparency line-shapes in the vacuum Rb cell*, J. Phys. B 46, 175501 (2013)
16. A. Maggitti, M. Radonjić and B. M. Jelenković, *Dark-state polaritons in a degenerate two-level system*, Laser Phys. 23, 105202 (2013)
17. Nikola Burić, Duška B. Popović, Milan Radonjić, Slobodan Prvanović, *Phase space theory of quantum-classical systems with nonlinear and stochastic dynamics*, Ann. Phys. (NY) 343, 16 (2014)
18. M. Radonjić, D. B. Popović, S. Prvanović, and N. Burić, *Ehrenfest principle and unitary dynamics of quantum-classical systems with general potential interaction*, Phys. Rev. A 89, 024104 (2014)
19. D. Arsenović, N. Burić, D. B. Popović, M. Radonjić, and S. Prvanović, *Cloning in nonlinear Hamiltonian quantum and hybrid mechanics*, Phys. Rev. A 90, 042115 (2014)
20. S. N. Nikolić, M. Radonjić, N. M. Lučić, A. J. Krmpot and B. M. Jelenković, *Transient development of Zeeman electromagnetically induced transparency during propagation of Raman-Ramsey pulses through Rb buffer gas cell*, J. Phys. B 48, 045501 (2015)
21. D. Arsenović, N. Burić, D. B. Popović, M. Radonjić, and S. Prvanović, *Positive-operator-valued measures in the Hamiltonian formulation of quantum mechanics*, Phys. Rev. A 91, 062114 (2015)
22. Wassilij Kopylov, Milan Radonjić, Tobias Brandes, Antun Balaž, and Axel Pelster, *Dissipative two-mode Tavis-Cummings model with time-delayed feedback control*, Phys. Rev. A 92, 063832 (2015)
23. B. Zlatković, A. J. Krmpot, N. Šibalić, M. Radonjić, and B. M. Jelenković, *Efficient parametric non-degenerate four wave mixing in hot potassium vapor*, Laser Phys. Lett. 13, 015205 (2016)
24. A. Maggitti, M. Radonjić, and B. M. Jelenković, *Dark-polariton bound pairs in the modified Jaynes-Cummings-Hubbard model*, Phys. Rev. A 93, 013835 (2016)
25. Borivoje Dakić and Milan Radonjić, *Macroscopic Superpositions as Quantum Ground States*, Phys. Rev. Lett. 119, 090401 (2017)