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Education

Jan. 2014 - Feb. 2018 PhD Physics, Department of Physics, University of Zagreb

title: Synthetic Lorentz force for neutral cold atoms, supervisor: Dr. T. Ban

Sept. 2005 - Jul. 2012 mag. phys., Department of Physics, Faculty of Science, University of Zagreb

Employment

Oct. 2016 - ongoing Research Assistant, Institute of Physics, Zagreb

Dec. 2013 - Sept. 2016 Research Assistant, Department of Physics, Faculty of Science University of Zagreb

Research Visits

Mar. 2017 Umeå University, group of Aleksandra Foltynowicz-Matyba

15 – 26 Feb. 2016 Winter College on Optics: Optical Frequency Combs - won third poster prize

Oct. 2015 – Dec. 2015, again in May 2016 and Sept. 2016 Institut Non Linéaire de Nice, University Côte d'Azur, group of Robin Kaiser - financed by a scholarship of the French government

Sept. 2015 University of Innsbruck, Erbium lab, group of Francesca Ferlaino

Sept. 2013 Cold Atoms PreDoc School, Les Houches, France - financed by a grant of the organizer

Sept. 2012 - Nov. 2012 Laboratoire Aimé Cotton, University Paris-Sud, Orsay, group of Daniel Comparat - financed by a scholarship of the French government

Publications

- (9) N. Šantić, A. Cipriš, I. Krešić, D. Aumiler, and T. Ban, "Sub-Doppler cooling of atoms using an optical frequency comb," submitted
- (8) N. Šantić, S. Salem, J. Garnier, A. Fusaro, A. Picozzi, and R. Kaiser, "Non-equilibrium precondensation of classical waves in two dimensions propagating through atomic vapors," Phys. Rev. Lett. **120**, 055301 (2018).
- (7) N. Šantić, T. Dubček, D. Aumiler, H. Buljan, and T. Ban, "Synthetic Lorentz force in an expanding cold atomic gas," J. Opt. Soc. Am. B **34**, 1264-1269 (2017).
- (6) N. Šantić, T. Dubček, D. Aumiler, H. Buljan, T. Ban, "Experimental Demonstration of a Synthetic Lorentz Force by Using Radiation Pressure," Scientific reports **5**, 13485 (2015).
- (5) G. Kregar, N. Šantić, D. Aumiler, T. Ban, "Radiation pressure force on cold rubidium atoms due to excitation to a non-cooling hyperfine level," Eur. Phys. J. D **68**, 360 (2014).
- (4) T. Dubček, N. Šantić, D. Jukić, D. Aumiler, T. Ban, H. Buljan, "Synthetic Lorentz force in classical atomic gases via Doppler effect and radiation pressure," Phys. Rev. A **89**, 063415 (2014).

- (3) G. Kregar, N. Šantić, D. Aumiler, H. Buljan, and T. Ban, "Frequency-comb-induced radiative force on cold rubidium atoms," Phys. Rev. A, 89, 053421 (2014).
- (2) L. Kime, A. Fioretti, Y. Bruneau, N. Porfido, M. Viteau, G. Khalili, N. Šantić, A. Gloter, B. Rasser, P. Sudraud, P. Pillet and D. Comparat, "High flux monochromatic ion and electron beams based on laser-cooled atoms," Phys. Rev. A 88, 033424 (2013).
- (1) B. Šantić and N. Šantić, "Potential profile of the quantum step in semiconductors and the example of GaN," Semicond. Sci. Technol. 27, 085014 (2012).

Conferences

8–12 May 2017 Quantum fluids of light and matter (QFLM), Cargèse (Corsica)

Poster: N. Šantić, S. Salem, J. Garnier, A. Fusaro, A. Picozzi, R. Kaiser, Non-equilibrium precondensation of classical waves propagating through atomic vapours

29 Sept. – 1st Oct. 2015 Institute of physics, Zagreb, Croatia, Workshop on topological and synthetic gauge fields for atoms and photons

Poster: N. Šantić, T. Dubček, D. Aumiler, H. Buljan, T. Ban, Experimental demonstration of a synthetic Lorentz force by using radiation pressure - member of the organizing committee

20-24 Apr. 2015 Young Atom Opticians conference (YAO), ETH Zürich, Switzerland

Talk: N. Šantić, T. Dubček, D. Aumiler, H. Buljan and T. Ban, Experimental demonstration of a synthetic Lorentz force by using radiation pressure

15–18 Sept. 2014 Durham / Newcastle University, Quantum, Atomic, Molecular and Plasma Physics (QuAMP) school

Talk: N. Šantić, T. Dubček, D. Jukić, D. Aumiler, H. Buljan and T. Ban, Towards experimental realization of synthetic Lorentz forces in classical cold atomic gases

31 Apr 4 May 2014 ICFO, Barcelona, Spain, Young Atom Opticians Conference

Poster: N. Šantić, T. Dubček, D. Jukić, D. Aumiler, H. Buljan and T. Ban, Experimental setup for constructing synthetic Lorentz forces for classical cold atomic gases

13-17 May 2013 ICTP, Trieste, Italy: Workshop on Ultracold Atoms and Gauge Theories

Poster: N. Šantić, G. Kregar, V. Vekić, D. Aumiler, H. Buljan and T. Ban, Imaging and characterization of cloud dynamics in a magneto-optical trap induced by external forces

Teaching

Jan. 2013 – Sept. 2016 Teaching assistant – Advanced physics practicum, Electronics practicum, Statistics and measurement basics, Faculty of Science, University of Zagreb