Yonathan Japha

Personal details

Born: November 1964, Israel
Citizenship: Israeli
Family status: Maried, 3 children
Home address: 14 Egoz Str., Rehovot, Israel.
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Education

1986-1989	BSc in Physics and Mathematics, Hebrew University of Jerusalem, with excellence.
1989-1991	MSc in Physics, Hebrew University of Jerusalem, Recah institute of physics, with excellence Field: theoretical solid-state physics, Title of thesis: Relation between superconductivity and magnetism in $Pr_xY_{1-x}Ba_2Cu_3O_7$ Supervisor: Prof. Vilen Zevin.
1992-1997	PhD in physics, Weizmann institute of Science. Rehovot. Department of Chemical Physics Field: Optics and quantum electrodynamics, Title of thesis: Dynamics of photons and atoms in time- and space-dependent media Supervisor: Prof. Gershon Kurizki.
1997-1999	Post-doc, University of Oxford, UK, Department of Physics, Group of Prof. Keith Burnett Research topic: Theory of trapped ultracold atoms at zero and finite temperature.
January - July 2000	Post doc, Ben-Gurion University. Beer-Sheva, Department of Chemistry, with Dr. Bilha Segev Research topic: semiclassical theory of adiabatic energy transitions in systems of many atoms and molecules.

Employment

1989-1992	Teaching assistant, Hebrew University of Jerusalem
2000-2003	Researcher. LaserComm company. Tel-Aviv. Research and development. Design, simulations and algorithms in fiber and free space optics. Opimization of imaging, design and manufacturing processes.
2003-2004	Independent consultant. Work with BioScan company, Yokneam: development of fiber ultrasound systems for medicine. Simulation and analysis of wave propagation in multi-mode and single-mode special fibers.
2004-present	Researcher. Ben-Gurion University of the Negev. Beer-Sheva. Department of Physics. Matter wave theory. Interaction of atoms with light and electromagnetic fields. Simulation, optimization and design. Projects with Ron Folman, Ora-Entin Wohlman and Yehuda Band.

Prizes and Scholarships

1997 -	Scholarship of the British Council for research in the UK
1998 -	J.F. Kennedy prize for excellent PhD research. Weizmann institute of science
1992 -	Seadia Amiel prize for teaching, Faculty of natural sciences, Hebrew University
1991 -	Soli Cohen prize for excellent M.Sc. students, Hebrew University

List of publications

Journal publications

1. Y. Japha and V. Zevin, "Superconductivity and Magnetism in $Pr_xY_{1-x}Ba_2Cu_3O_7$", Phys. Rev. **B 46**, 9240 (1992)

2. Y. Japha and G. Kurizki, "Superluminal Delays of Coherent Pulses in Non-Dissipative Media: A Universal Mechanism", Phys. Rev. **A 53**, 586 (1996)

3. Y. Japha and G. Kurizki, "Spontaneous emission from tunneling two-level atoms", Phys. Rev. Lett. **77**, 2909 (1996)

4. Y. Japha, G. Kurizki and V. M. Akulin, "Localized Decay of Excited Atoms in Cavities", Opt. Express **1**, 134 (1997)

5. Y. Japha, A. G. Kofman and G. Kurizki, "Control of Open Quantum Systems", Acta Physica Polonica **A 93**, 135 (1998)

6. Y. Japha, V. M. Akulin and G. Kurizki, "Atom Binding and Reflection by Spatially Inhomogeneous Spontaneous Emission", Phys. Rev. Lett. **80**, 3739 (1998)

7. Y. Japha and G. Kurizki, "Faraday quantum clock and nonlocal photon pair correlations", Phys. Rev. **A 60**, 1811 (1999)

8. Y. Japha, S. Choi, K. Burnett and Y. B. Band, "Coherent Output, Stimulated Quantum Evaporation, and Pair Breaking in a Trapped Atomic Bose Gas", Phys. Rev. Lett. **82**, 1079 (1999)

9. S. Choi, Y. Japha and K. Burnett, "Adiabatic output coupling of an atomic bose gas in finite-temperatures". Phys. Rev. **A 61**, 63606 (2000)

10. Y. Japha and Y. B. Band, "Motion of a condensate in a shaken and vibrating magnetic trap", J. Phys. **B 35**, 2383 (2002)

11. Y. Japha and B. Segev, "Semiclassical theory of field-induced thermal transition rate with application to output coupling of a Bose-Einstein gas at finite temperature", Phys. Rev. **A 65**, 063411 (2002)

12. V. Dikovsky, Y. Japha, C. Henkel and R Folman, "Reduction of magnetic noise in atom chips by material optimization", Euro. Phys. J. **D 35**, 87 (2005)

13. M. Rosenblit, Y. Japha, P. Horak, and R. Folman, "Simultaneous optical trapping and detection of atoms by microdisk resonators", Phys. Rev. **A 73**, 063805 (2006)

14. D. Rohrlich, Y. Neiman, Y. Japha and R. Folman, "Interference swapping in scattering from a nonlocal quantum target", Phys. Rev. Lett. **96**, 173601 (2006)

15. Y. Japha, O. Arzouan, Y. Avishai and R. Folman, "Using Time-Reversal Symmetry for Sensitive Incoherent Matter-Wave Sagnac Interferometry", Phys. Rev. Lett. **99**, 060402 (2007)

16. S. Aigner, L. Della Pietra, Y. Japha, O. Entin-Wohlman, T. David, R. Salem, R. Folman, and J. Schmiedmayer, "Long-Range Order in ElectronicTransport Through Disordered Metal Films", Science **319**, 1226 (2008)

17. Y. Japha, O. Entin-Wohlman, T. David, R. Salem, S. Aigner, J. Schmiedmayer, and R. Folman, "Model for organized current patterns in disordered conductors", Phys. Rev. **B 77**, 201407(R) (2008)

18. T. David, Y. Japha, V. Dikovsky, R. Salem, C. Henkel, and R. Folman, "Magnetic interactions of cold atoms with anisotropic conductors", Eur. Phys. J **D 48**, 321 (2008)

19. P. G. Petrov, S. Machluf, S. Younis, R. Macaluso, T. David, B. Hadad, Y. Japha, M. Keil, E. Joselevich, and R. Folman, "Trapping cold atoms using surface-grown carbon nanotubes", Phys. Rev. **A 79**, 043403 (2009)

20. D. Groswasser, A. Waxman, M. Givon, G. Aviv, Y. Japha, M. Keil, and R. Folman, "Retroreflecting polarization spectroscopy enabling miniaturization", Rev. Sci. Inst. **80**, 093103 (2009)

21. R. Salem, Y. Japha, J. Chabé, B. Hadad, M. Keil, K. A. Milton and R. Folman, "Nanowire atomchip traps for sub-micron atomsurface distances", New J. Phys. **12**, 023039 (2010)

22. M. Nest, Y. Japha, R. Folman, and R. Kosloff, "Dynamic matter-wave pulse shaping", Phys. Rev. **A 81**, 043632 (2010)

23. S. Machluf, J. Coslovsky, P. Petrov, Y. Japha and R. Folman, "Coupling between internal spin dynamics and external degrees of freedom in the presence of colored noise", Phys. Rev. Lett, in press (2010)

24. Y. Japha and Y. B. Band, "Coherence of an interacting Bose gas: from a single to a double well", arXiv:1010.4918 (2010) (submitted to Phys. Rev. Lett.)

Book chapter

M. Tur, D. Menashe, Y. Japha and Y. Danziger, "High-order-mode based dispersion compensating modules using spatial mode conversion", in *Optical and fiber communications 5, fiber based dispersion compensation, Editor: Siddharth Ramachandran, Springer 2007*