Publications

Publications in connection with this work:

1. M. E. Garcia, H. O. Jeschke, I. Grigorenko and K. H. Bennemann, "Theory for the ultrafast dynamics of excited clusters: interplay between electronic excitations and structural changes", Appl. Phys. B **71**, 361 (2000).

2. I. Grigorenko and M. E. Garcia, "An evolutionary algorithm to calculate the ground state of a quantum system", Physica A **284**, 131 (2000).

3. I. Grigorenko and M. E. Garcia, "Wave functions of two-particle systems determined using quantum genetic algorithms", Physica A **291**, 439 (2001).

4. I. Grigorenko, K. H. Bennemann and M. E. Garcia, "Theory for the explosion of clusters due to strong femtosecond electric fields: Size and charge effects", Europhys. Lett. **57**, 39 (2002).

5. I. Grigorenko, O. Speer and M. E. Garcia, "Coherent control of photon assisted tunnelling between quantum dots: a theoretical approach using genetic algorithms", Phys. Rev. B **65**, 235309 (2002).

6. I. Grigorenko and M. E. Garcia, "Calculation of the partition function of a quantum mechanical system using genetic algorithms", Physica A **313**, 463 (2002).

7. I. Grigorenko, M. E. Garcia and K. H. Bennemann, "Theory for the optimal control of time-averaged quantities in open quantum systems", Phys. Rev. Lett. **89**, 233003 (2002).

Oral presentations and posters:

1. I. A. Grigorenko, M. E. Garcia, K. H. Bennemann, "Theory for laser induced Coulomb explosion of clusters", International Workshop on Dynamical approaches in Atomic and Cluster Physics, Dresden, (2000).

2. I. A. Grigorenko, M. E. Garcia, K. H. Bennemann, "Optimal control of time-averaged quantities in quantum systems with relaxation", DPG-Fruehjahrstagung, Arbeitskreis Atome, Molekuele, Quantenoptik und Plasmen (AMOP), Osnabrueck, (2002).

3. M. Garcia, I. Grigorenko, "Variational approach to the optimal control of time-averaged quantities in open quantum systems", Annual APS March Meeting, Indianapolis, (2002).

4. I. Grigorenko, "Applications of Genetic Algorithms to modern physical problems", Invited talk, Colab ETH, Zürich, (2002).

5. I. Grigorenko, M. E. Garcia, K. H. Bennemann, "Analytical theory for the optimal control over time interval in quantum systems", ISSPIC 11, Strasbourg, (2002).

Other publications:

1. B. G. Matisov, I. A. Grigorenko, I. E. Mazets, "Subrecoil cooling of atoms with a nondegenerate ground state", JETP Lett. **62**, 484 (1995).

2. I. E. Mazets, I. A. Grigorenko, N. Leinfellner, B. G. Matisov, L. Windholz, "VSCPT subrecoil laser cooling of atoms with a nondegenerated (J=0) ground state", Z. Phys. D **38**, 327 (1996).

3. B. G. Matisov, I. A. Grigorenko, I. E. Mazets, "Coherent population trapping in an ensemble of three-level atoms in a presence of cooperative relaxation", JETP **85**, 469 (1997).

4. B. G. Matisov, I. A. Grigorenko, N. Leinfellner, I. E. Mazets, A. Yu. Snegirev, "Cooperative population dynamics of an ensemble of Lambda atoms in a bichromatic field", Tech. Phys. **43**, 631 (1998).

Other presentations:

1. B. G. Matisov, I. E. Mazets, I. A. Grigorenko, N. Leinfellner, L. Windholz, "Temporal dynamics of subrecoil laser cooling in double cascade systems", III Workshop Optics and Interferometry with atoms, Elba, (1996).

2. I. A. Grigorenko, B. G. Matisov, "Cooperative dynamics of ensemble of atoms with lambda-scheme of levels driven by two resonant laser fields", International Workshop on New Approaches to Hi-Tech Materials, Non-destructive Testing and Computer Simulations in Material Science and Engineering, St. Petersburg, (1997).

3. I. A. Grigorenko, B. G. Matisov, I. E. Mazets, "Effects of cooperative dynamics in coherent population trapping", 29th Conference European Group for Atomic Spectroscopy, Berlin, (1997).

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