



List of Publications

<p>Formation of nanoclusters and nanopillars in nonequilibrium surface growth for catalysis applications: growth by diffusional transport of matter in solution synthesis</p> <p>V Privman, V Gorshkov, O Zavalov</p> <p>Heat and Mass Transfer 50 (3), 383-392</p>	2014
<p>Semiclassical Monte Carlo: A first principles approach to non-adiabatic molecular dynamics</p> <p>AJ White, VN Gorshkov, R Wang, S Tretiak, D Mozyrsky</p> <p>The Journal of chemical physics 141 (18), 184101</p>	2014
<p>Modeling of Growth Morphology of Core-Shell Nanoparticles</p> <p>V Gorshkov, V Kuzmenko, V Privman</p> <p>The Journal of Physical Chemistry C 118 (43), 24959-24966</p>	2014
<p>Mechanisms of interparticle bridging in sintering of dispersed nanoparticles</p> <p>V Gorshkov, V Kuzmenko, V Privman</p> <p>Journal of Coupled Systems and Multiscale Dynamics 2 (2), 91-99</p>	2014
<p>Nonequilibrium kinetic modeling of sintering of a layer of dispersed nanocrystals</p> <p>V Gorshkov, V Kuzmenko, V Privman</p> <p>CrystEngComm 16 (45), 10395-10409</p>	2014
<p>Nonequilibrium kinetic study of sintering of dispersed nanoparticles</p> <p>V Gorshkov, V Kuzmenko, V Privman</p> <p>CrystEngComm 15 (36), 7177-7191</p>	2013
<p>Semiclassical Monte-Carlo approach for modelling non-adiabatic dynamics in extended molecules</p> <p>VN Gorshkov, S Tretiak, D Mozyrsky</p> <p>Nature communications 4</p>	2013

<p>Signal Stabilization for Combined Gaussian-Vortex Beam Propagating Through Atmospheric Optical Link VN Gorshkov, SV Torous Research Bulletin of NTUU" Kyiv Polytechnic Institute"</p>	2012
<p>A Discrete Two-Dimensional Model of a Loaded Cantilever Influenced by Time-Dependent Forces GP Berman, VN Gorshkov, VV Kuzmenko, U Mohideen arXiv preprint arXiv:1204.3572</p>	2012
<p>Radiation damping for speeding-up NMR applications GP Berman, MA Espy, VN Gorshkov, VI Tsifrinovich, PL Volegov Concepts in Magnetic Resonance Part A 40 (4), 179-185</p>	2012
<p>Scintillation reduction for laser beams propagating through turbulent atmosphere GP Berman, VN Gorshkov, SV Torous Journal of Physics B: Atomic, Molecular and Optical Physics 44 (5), 055402</p>	2011
<p>Scintillation reduction for combined Gaussian-vortex beam propagating through turbulent atmosphere GP Berman, VN Gorshkov, SV Torous SPIE LASE, 79240G-79240G-13</p>	2011
<p>Morphology of nanoclusters and nanopillars formed in nonequilibrium surface growth for catalysis applications V Gorshkov, O Zavalov, PB Atanassov, V Privman Langmuir 27 (13), 8554-8561</p>	2010
<p>Models of synthesis of uniform colloids and nanocrystals V Gorshkov, V Privman Physica E: Low-dimensional Systems and Nanostructures 43 (1), 1-12</p>	2010
<p>The effects of phase diffuser on scintillations of laser radiation for long-distance propagation in the atmosphere GP Berman, AR Bishop, BM Chernobrod, OO Chumak, VN Gorshkov, ... SPIE LASE, 758804-758804-12</p>	2010
<p>Suppression of scintillations and beam wandering in free space gigabit rate optical communication based on spectral encoding of a partially coherent beam GP Berman, AR Bishop, BM Chernobrod, AA Chumak, VN Gorshkov SPIE LASE: Lasers and Applications in Science and Engineering, 72000H-72000H-15</p>	2009
<p>Uncooled infrared and terahertz detectors based on micromechanical mirror as a radiation pressure sensor GP Berman, BM Chernobrod, AR Bishop, VN Gorshkov SPIE MOEMS-MEMS: Micro-and Nanofabrication, 720403-720403-12</p>	2009
<p>Reduction of laser intensity scintillations in turbulent atmospheres using time</p>	2009

<p>averaging of a partially coherent beam GP Berman, AR Bishop, BM Chernobrod, VN Gorshkov, DC Lizon, ... Journal of Physics B: Atomic, Molecular and Optical Physics 42 (22), 225403</p>	
<p>Optimization and new applications of a magnetic trap for ultra-cold neutrons GP Berman, VN Gorshkov, VI Tsifrinovich Nuclear Instruments and Methods in Physics Research Section A: Accelerators ...</p>	2008
<p>Process of compensation of the space charge of a negative ion beam in a gas VN Gorshkov, AM Zavalov, IA Soloshenko Plasma Physics Reports 33 (12), 1032-1037</p>	2007
<p>ISSLEDOVANIE PROTSSESA KOMPENSATSII OB" EMNOGO ZARYaDAPUChKAOTRITsATEL'NYKh IONOV V GAZE VN Gorshkov, AM Zavalov, IA Soloshenko Fizikaplazmy 33 (12), 1127-1133</p>	2007
<p>Ground states of Heisenberg spin chains via quantum annealing GP Berman, VN Gorshkov, VI Tsifrinovich Physics Letters A 369 (1), 151-156</p>	2007
<p>Physical Processes in Compensated Beams of Negative Ions and Problems of Transport of the Beams IA Soloshenko, VN Gorshkov, AM Zavalov Production and Neutralization of Negative Ions and Beams: 11th International ...</p>	2007
<p>Terahertz and Infrared Uncooled Detector Based on a Microcantilever as a Radiation Pressure Sensor GP Berman, BM Chernobrod, AR Bishop, VN Gorshkov arXiv preprint physics/0703042</p>	2007
<p>Quantum Annealing for Heisenberg Spin Chains GP Berman, VN Gorshkov, VI Tsifrinovich arXiv preprint quant-ph/0702048</p>	2007
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<p>Physical Processes in Compensated Negative-Ion Beams and Related Beam Transport Problems IA Soloshenko, VN Gorshkov, AM Zavalov arXiv preprint physics/0609125</p>	2006

<p>Numerical simulations on cleaning the neutron trap for measuring the neutron lifetime VN Gorshkov, GP Berman arXiv preprint nucl-ex/0611005</p>	2006
<p>Diffraction of the singular beam on an opaque screen and regeneration of an optical vortex VN Gorshkov, AN Khoroshun, MS Soskin UKRAINS'KYI FIZYCHNYI ZHURNAL 51 (2), 132</p>	2006
<p>Spin diffusion and relaxation in solid state spin quantum computer GP Berman, BM Chernobrod, VN Gorshkov, VI Tsifrinovich Physics Letters A 352 (1), 107-114</p>	2006
<p>Magnetic resonance force microscopy and a single-spin measurement GP Berman, F Borgonovi, VN Gorshkov, VI Tsifrinovich World Scientific</p>	2006
<p>The mechanisms of formation of vortices in optics and hydrodynamics VN Gorshkov, AN Khoroshun, MS Soskin UKRAINS'KYI FIZYCHNYI ZHURNAL 50 (4), 351</p>	2005
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