LIST OF PUBLICATIONS

2012


- **D. Dragoman** – Berry phase and traversal time in asymmetric graphene structures, Physica E 44, 816-820, 2012

- A. Zubarev, **D. Dragoman** – Tunable energy filtering of ballistic electrons in graphene, J. Phys. D, in press

2011


- Radoi, M. Dragoman, **D. Dragoman** – Memristor device based on carbon nanotubes decorated with gold nanoislands, Appl. Phys. Lett. 99, 093102, 2011


2010


- **D. Dragoman** – Low-energy conductivity of single- and double-layer graphene from the uncertainty principle, Physica Scripta 81, 035702, 2010; also as e-print: arXiv:0903.2766

• **D. Dragoman**, M. Dragoman – There is no Hartman effect in graphene structures, J. Appl. Phys. 107, 054306, 2010

• G. Deligeorgis, M. Dragoman, D. Neculoiu, **D. Dragoman**, G. Konstantinidis, A. Cismaru, R. Plana – Microwave switching of graphene field effect transistor at and far from the Dirac point, Appl. Phys. Lett. 96, 103105, 2010

• O. Rasoga, **D. Dragoman** – Engineered beam shaping effect in anisotropic photonic crystals, Appl. Opt. 49, 2161-2167, 2010

• M. Dragoman, A.A. Muller, **D. Dragoman**, F. Coccetti, R. Plana – Terahertz antenna based on graphene, J. Appl. Phys. 107, 104313, 2010


• M. Dragoman, D. Neculoiu, G. Deligeorgis, G. Konstantinidis, **D. Dragoman**, A. Cismaru, A. A. Muller, R. Plana – Millimeter-wave generation via frequency multiplication in graphene, Appl. Phys. Lett. 97, 093101, 2010


• A. Radoi, A. Iordanescu, A. Cismaru, M. Dragoman, **D. Dragoman** – Ultrabroadband photodetection based on graphene ink, Nanotechnology 21, 455202, 2010


• M. Dragoman, D. Neculoiu, **D. Dragoman**, G. Deligeorgis, G. Konstantinidis, A. Cismaru, F. Coccetti, R. Plana – Graphene for microwaves, IEEE Microwave Magazine 11, 81-86, December 2010

• **D. Dragoman** – Kane-like electrons in type II/III heterostructures versus Dirac-like electrons in graphene, J. Appl. Phys. 108, 094302, 2010; also as e-print: arXiv:1010.4895


• D. Neculoiu, G. Deligeorgis, M. Dragoman, **D. Dragoman**, G. Konstantinidis, A. Cismaru, and R. Plana, Electromagnetic propagation of graphene in the mm-wave frequency range, European Microwave Conf., Sept. 2010, Paris, France

**2009**


• **D. Dragoman** – Evidence against Klein paradox in graphene, Physica Scripta 79, 015003, 2009; also as e-print: quant-ph/0701083

• **D. Dragoman** – Relativistic aberrations in quantum phase space, Optics Communications 282, 1042-1046, 2009; also as e-print: arXiv:0803.0972


• M. Dragoman, **D. Dragoman**, F. Coccetti, R. Plana, A.A. Muller – Microwave switches based on graphene, J. Appl. Phys. 105, 054309, 2009


• I. Ionita, **D. Dragoman** – Anisotropic right/left-handed-material switch, J. Appl. Phys. 106, 053111, 2009


• **D. Dragoman**, M. Dragoman – Real-time detection of deoxyribonucleic acid bases via their negative differential conductance signature, Phys. Rev. E 80, 022901, 2009

• M. Dragoman, **D. Dragoman** – Graphene-based quantum electronics, Prog. Quantum Electron. 33, 165-214, 2009

• M. Dragoman, E. Flahaut, **D. Dragoman**, M. Al Ahmad, R. Plana – Writing simple RF electronic devices on paper with carbon nanotube ink, Nanotechnology 20, 375203, 2009; also as e-print: arXiv:0901.0362

• **D. Dragoman** – On the quantum-classical character of the quantum wavefunction of material particles, Annales de la Fondation Louis de Broglie 34, 25-34, 2009; also as e-print: quant-ph/0604087


• I. Ionita, **D. Dragoman** – Polarization control of metamaterial behavior, 32nd International Annual Conf. of Semiconductors, Sinaia, Romania, pp. 537-540, 2009

• O. Rasoga, **D. Dragoman** – Beam shaping with anisotropic periodic structures, 32nd International Annual Conf. of Semiconductors, Sinaia, Romania, pp. 185-188, 2009


• **D. Dragoman** – Graphene: properties and applications, Romanian Conf. on Advanced Materials, ROCAM 2009, Brasov, Romania, 25-28 August 2009 (invited contribution)

2008

• D. Dragoman – The localized quantum vacuum field, Physica Scripta 77, 035005, 2008; also as e-print: quant-ph/0603005

• M. Dragoman, D. Dragoman – Plasmonics: applications to nanoscale terahertz and optical devices, Prog. Quantum Electron. 32, 1-41, 2008


• D. Dragoman – Quantum electric circuits analogous to ballistic conductors, J. Appl. Phys. 103, 084310, 2008; also as e-print: arXiv:0708.1332


• M. Dragoman, D. Dragoman – The carbon nanotube radio, 31st International Annual Conf. of Semiconductors, Sinaia, Romania, pp. 77-80, 2008


nanotubes and graphene, 31st International Annual Conf. of Semiconductors, Sinaia, Romania, pp.103-106, 2008


**2007**

- M. Dragoman, **D. Dragoman**, A.A. Muller – High frequency devices based on graphene, 30th International Annual Conf. of Semiconductors, Sinaia, Romania, pp. 53-56, 2007

**2006**

2005

- M. Dragoman, **D. Dragoman** – Carbon nanotube-based oscillators and amplifiers for terahertz signals, in *Advanced MEMS for RF and millimeter wave communications*, A. Müller, A. Rydberg, R. Plana (Eds.), Editura Academiei Romane, Bucuresti, 2005, pp. 206-213
- **D. Dragoman** – Spin-polarized beam splitter for ballistic electrons, Physica B 367, 92-100, 2005; also as e-print: quant-ph/0410056
- **D. Dragoman** – Phase space formulation of quantum mechanics. Insight into the measurement problem, Physica Scripta 72, 290-295, 2005; also as eprint: quant-ph/0402021
- **D. Dragoman** – Applications of the Wigner distribution function in signal processing (invited paper), EURASIP Journal on Applied Signal Processing 10, 1520-1534, 2005

2004

- **D. Dragoman** – Noninterferometric and nontomographic iterative method for field retrieval, Appl. Opt. 43, 4208-4213, 2004
- M. Dragoman, D. Dragoman – Terahertz Gunn amplification in semiconductor carbon nanotubes, 27th International Annual Conf. of Semiconductors, Sinaia, Romania, pp. 85-88, 2004

- M. Dragoman, D. Dragoman – Carbon nanotube-based oscillators and amplifiers for terahertz signals, 5th MEMSWAVE Workshop, Upsalla, Sweden, pp. 15-17, 2004


**2003**

- D. Dragoman – Optoelectronica Integrata, Editura Univ. Bucuresti, 2003 (in Romanian)


- M. Dragoman, D. Dragoman – Carbon nanotube resonant-tunneling diodes as terahertz oscillators, 26th International Annual Conf. of Semiconductors, Sinaia, Romania, pp. 75-78, 2003

- M. Purica, E. Budianu, M. Kusko, D. Dragoman, G. Dinescu – Analysis and optimization of the Bragg reflector for tunable photodetector with planar mirror optical microcavity on silicon substrate, 26th International Annual Conf. of Semiconductors, Sinaia, Romania, pp. 155-158, 2003

2002

- D. Dragoman – Phase space correspondence between classical optics and quantum mechanics, Progress in Optics 42, 433-496, 2002; also as eprint: quant-ph/0402100
- M. Barbu, D. Dragoman – The asymmetry of the tunneling time in type II semiconductor structures, Opt. Quantum Electron. 34, 1097-1109, 2002
- D. Dragoman – N-step optical simulation of the N-qubit state: applications in optical computing, Optik 113, 425-428, 2002

2001

- D. Dragoman – Quantum interference as phase space filtering, Optik 112, 31-36, 2001
- **D. Dragoman, M. Dragoman** – On the similarities between the Wigner distribution function in classical and quantum optics, Optik 112, 497-501, 2001
- **P. Gheneuche, C. Ionescu, D. Dragoman** – A new interpretation of light interference, Romanian Reports in Physics 53, 461-468, 2001

### 2000

- **D. Dragoman** – Can the Wigner transform of a 2D rotationally symmetric beam be fully recovered from the Wigner transform of its 1D approximation, Optics Letters 25, 281-283, 2000
- **D. Dragoman** – The origin of negative values of the Wigner distribution function, Optik 111, 179-183, 2000
- **D. Dragoman** – Optical analogue of a type II semiconductor heterostructure, J. Appl. Phys. 88, 1-6, 2000
- **D. Dragoman, M. Dragoman** – Single device for laser source measurements from UV to far IR, Applied Optics 39, 4361-4365, 2000
- **D. Dragoman** – Classical optical analogs of quantum Fock states, Optik 111, 393-396, 2000
- **D. Dragoman** – Phase space interference as the source of negative values of the Wigner distribution function, J. Opt. Soc. Am. A 17, 2481-2485, 2000
- **M. Dragoman, D. Dragoman** – Optical field characterization using tunneling microstructures, 23rd International Annual Conf. of Semiconductors, Sinaia, Romania, pp. 393-396, 2000

### 1999

- **D. Dragoman, M. Dragoman** – Band-engineered semiconductor optical waveguides for integral transform implementation, J. Appl. Phys. 85, 3409-3412, 1999
- **D. Dragoman, M. Dragoman** – Optical analogue structures to mesoscopic devices, Progress in Quantum Electronics 23, 131-188, 1999


• F. H. Stoica, D. Dragoman – Analytical treatment of wave packet tunneling through a resonant double barrier heterostructure, J. Appl. Phys. 86, 2677-2683, 1999

• D. Dragoman, M. Dragoman – Optical actuation of micromechanical tunneling structures with applications in spectrum analyzing and optical computing, Appl. Opt. 38, 6773-6778, 1999


• M. Dragoman, D. Dragoman – Optical actuation of micromechanical tunneling structures, 22nd International Annual Conf. of Semiconductors, Sinaia, Romania, pp. 451-455, 1999

1998


1997


• D. Dragoman, M. Dragoman – Near and far field optical beams characterization using the fractional Fourier transform, Opt. Commun. 141, 5-9, 1997

1996
• D. Dragoman, M. Dragoman – Calculation of the tunneling time through type II resonant heterostructures, Phys. Lett. A 210, 121-124, 1996


- M. Dragoman, **D. Dragoman** – Soliton waves propagation in high temperature superconductor nonlinear transmission lines, 4th International Workshop on Integrated Nonlinear Microwave and Millimeter Circuits, Duisburg, Germany, pp. 133-138, October 1996

**1995**

- **D. Dragoman** – Phase space representation of modes in optical waveguides, J. Mod. Opt. 42, 1815-1823, 1995


- **D. Dragoman** – Wigner distribution function for a complex matrix optical system, Optik 100, 137-139, 1995


- **D. Dragoman, M. Dragoman** – Tunneling time calculations in type I and II resonant quantum heterostructures, 18th International Annual Conf. of Semiconductors, Sinaia, Romania, pp. 271-274, 1995

**1994**

- **D. Onciul** – Efficiency of light launching into waveguides: a phase space approach, Optik 96, 20-24, 1994

- **D. Onciul** – Waveguide launching efficiency for multimoded and partially coherent light sources, Optik 97, 75-77, 1994


**1993**


- **D. Onciul** – Characterization of the propagation of light beams through misaligned linear optical systems, Optik 93, 23-26, 1993


- **D. Onciul** – Phase space representation of normal modes in optical waveguides, Proc. of the Workshop on Laser Beam Characterization, Madrid, Spain, pp. 405-415, 1993
1992


1991


1990