

LISTA DE LUCRĂRI

PUBLICATIONS LIST

I. LISTA CĂRȚILOR ȘI VOLUMELOR EDITATE ȘI PUBLICATE BOOKS AND BOOK CHAPTERS PUBLISHED

1. Octavian DĂNILĂ, *Contributions to the Study of Quantum Entanglement in Quantum Communications*, Teza de Doctorat, Universitatea Națională de Știință și Tehnologie Politehnica București, 2012.
2. Octavian DĂNILĂ, *Elemente de Fizică Clasică*, Politehnica Press, 2024, ISBN 978-606-9608-85-2
3. Octavian DĂNILĂ, *Elemente de Mecanică Teoretică*, Editura Bren, 2020, ISBN 978-606-610-237-7.
4. Octavian DĂNILĂ, *Quantum Entanglement. Fundamental Aspects*, Politehnica Press 2017, ISBN 978-606-515-767-5.
5. Octavian DĂNILĂ, *Elemente de Fizică Modernă și Contemporană*, Editura Matrix Rom, 2025, ISBN: 978-606-251-006-0.

II. LISTA ARTICOLELOR ȘTIINȚIFICE INDEXATE ISI-WoS ISI-INDEXED JOURNAL ARTICLES

1. A. Ilie, D. Mănăilă-Maximean, Octavian DĂNILĂ, *Efficient Modeling of Polarized Reflection Spectra in Metasurfaces using Deep Learning Frameworks*, UPB Sci. Bull. A (ISSN 1223-7027, JCR Q3), **87**(1), pp. 189-198, WOS:001444358700016, 2025.
2. B. Neaga, M. Iliș, C. Cîrtoaje, Octavian DĂNILĂ, D. Mănăilă-Maximean, V. Cîrcu, *Effect of MWCNT Doping on the TN-I Transition Temperatures and Emission Behavior of a Nonmesogenic Luminescent Platinum (II) Complex in Nematic Liquid Crystal 5CB*, UPB Sci. Bull. A (ISSN 1223-7027, JCR Q3), **86**(2), pp. 153-166, WOS:001247266400014, 2024.
3. A. Bărar, S. A. Maclean, B. M. Gross, D. Mănăilă-Maximean, Octavian DĂNILĂ, *Mixing Rules for Left-Handed Disordered Metamaterials: Effective-Medium and Dispersion Properties*, Nanomaterials (eISSN: 2079-4991, JCR Q2), **14**(12), 1056, WOS: 001256359300001, 2024.
4. A. Bărar, S. A. Maclean, Octavian DĂNILĂ, A. D. Taylor, *Towards High-Efficiency Photon Trapping in Thin-Film Perovskite Solar Cells using Etched Fractal Metadevices*, Materials (eISSN: 1996-1944, JCR Q2), **16**(11), 3934, WOS: 001005896000001, 2023.
5. Octavian DĂNILĂ, B. M. Gross, *Towards Highly Efficient Nitrogen Dioxide Gas Detectors in Humid and Wet Environments using Triggerable-Polymer Metasurfaces*, Polymers (eISSN: 2073-4360, JCR Q1), **15**(3), 545, WOS: 000932945500001, 2023.
6. A. Bărar, O. DĂNILĂ, *Spectral Response and Wavefront Control of a C-Shaped Fractal Cadmium Telluride/Silicon Carbide Metasurface in the THz Bandgap*, Materials (eISSN: 1996-1944, JCR Q2), **15**(17), 5944, WOS: 000851775200001, 2022.
7. Octavian DĂNILĂ, A. Bărar, M. Vlădescu, D. Mănăilă-Maximean, *An extended k-surface framework for electromagnetic fields in artificial media*, Materials (eISSN: 1996-1944, JCR Q1), **14**(24), 7842, WOS:000749910600001, 2021.

8. **Octavian DĂNILĂ**, D. Mănăilă-Maximean, A. Bărar, V. A. Loiko, *Non-layered gold-silicon and all-silicon frequency-selective metasurfaces for potential mid-infrared sensing applications*, Sensors (eISSN: 1424-8220, JCR Q1), **21**(16), 5600, WOS:000689977700001, 2021.
9. **Octavian DĂNILĂ**, *Polyvinylidene fluoride-based metasurface for high-quality active switching and spectrum shaping in the terahertz G-band*, Polymers (eISSN:2073-4360, JCR Q1), **13**(11), 1860, WOS:000660529100001, 2021.
10. **Octavian DĂNILĂ**, D. Mănăilă-Maximean, *Bifunctional metamaterials using spatial phase gradient architectures: generalized reflection and refraction considerations*, Materials (eISSN: 1996-1944, JCR Q1), **14**(9), 2201, WOS: 000650541500001, 2021.
11. **Octavian DĂNILĂ**, *Spectroscopic assessment of a simple hybrid Si-Au cell metasurface-based sensor in the mid-infrared domain*, J. Quant. Spectr. Rad. Trans. (ISSN: 0022-4073, JCR Q1), **254**, 107209, WOS:000573832700005, 2020.
12. V. A. Loiko, A. V. Konkolovich, A. A. Miskevich, D. Mănăilă-Maximean, **Octavian DĂNILĂ**, V. Cîrcu, A. Bărar, *Optical model to describe coherent transmittance of polymer dispersed liquid crystal film doped with carbon nanotubes*, J. Quant. Spectr. Rad. Trans. (ISSN: 0022-4073, JCR Q1), **245**, 106892, WOS:000534641000027, 2020.
13. A. Bărar, **Octavian DĂNILĂ**, P. Șchiopu, *Generation of continuous polarization distribution in a single laser beam*, UPB. Sci. Bull. A (ISSN: 1223-7027, JCR Q4), **81**(2), 279-286, WOS:000469381900027, 2019.
14. D. Mănăilă-Maximean, **Octavian DĂNILĂ**, C. P. Ganea, P. L. Almeida, *Filling in the voids of electrospun hydroxypropyl cellulose network: dielectric investigations*, Eur. Phys. J. Plus (ISSN: 0143-0807, JCR Q2), **133**(4), WOS:000431461800003, 2018.
15. E. Petrescu, C. Cîrtoaje, **Octavian DĂNILĂ**, *Dynamic behavior of nematic liquid crystal mixtures with quantum dots in electric fields*, Beilstein J. Nanotech. (ISSN: 2190-4286, JCR Q2) **9**(1), 399-406, WOS:000424048500002, 2018.
16. D. Mănăilă-Maximean, **Octavian DĂNILĂ**, P. L. Almeida, C. P. Ganea, *Electrical properties of a liquid crystal dispersed in an electrospun acetate network*, Beilstein J. Nanotech. (ISSN: 2190-4286, JCR Q2), **9**(1), 155-163, WOS:000423189900002, 2018.
17. D. Mănăilă-Maximean, **Octavian DĂNILĂ**, C. Cîrtoaje, D. Donescu, *Novel colloidal system: magnetite-polymer particles/lyotropic liquid crystal under magnetic field*, J. Magn. Mag. Mat. (ISSN: 0304-8853, JCR Q2), **438**(1), 132-137, WOS:000402480500021, 2017.
18. A. Surmeian, D. Mănăilă-Maximean, B. Mihalcea, O. Stoican, B. Butoi, **Octavian DĂNILĂ**, P. Dincă, I. Bărbuț, L. Tudor, A. Fazacaș, E. Diplășu, P. Chapon, M. Ganciu, *GDOES and GIMS analytical systems, effective tools for characterization of conductive and nonconductive materials*, UPB. Sci. Bull. A (ISSN: 1223-7027, JCR Q4), **77**(4), 273-280, WOS:000369178600027, 2015.
19. **Octavian DĂNILĂ**, P. E. Sterian, *Entanglement manifestations in laser structures*, Rom. Rep. Phys. (ISSN: 1221-1451, JCR Q3), **67**(3), 792-801, WOS:000361856300005, 2015.
20. A. D. Bădoi, I. Bărbuț, B. Butoi, **Octavian DĂNILĂ**, M. Ganciu, C. Luculescu, I. Morjan, C. Fleacă, F. Dumitrache, L. Gavrilă, E. Vasile, N. Mihăilescu, A. Cucu, I. Ciucă, *Covering with chitosan and hyaluronic acid shells of iron based nanoparticles obtained by laser pyrolysis for medical applications*, UPB. Sci. Bull. A, (ISSN: 1223-7027, JCR Q4) **77**(3), pp. 207-220, WOS:000417262900020, 2015.

21. **Octavian DĂNILĂ**, P. E. Sterian, *Delay choice experiments on entangled photon pairs*, Rom. Rep. Phys. (ISSN: 1221-1451, JCR Q3), 65(4), pp. 1431-1437, WOS:000328524100030, 2013.
22. **Octavian DĂNILĂ**, F. Kaiser, L. A. Ngah, S. Tanzilli, *On entangled photon pair sources*, UPB Sci. Bull. A (1223-7027, JCR Q4), 75(4), 251-264, WOS:000328301900022, 2013.
23. F. Kaiser, A. Issautier, L. A. Ngah, **Octavian DĂNILĂ**, H. Herrmann, W. Sohler, A. Martin, S. Tanzilli, *High quality polarization entanglement state preparation and manipulation in standard telecommunication channels*, New J. Phys. (eISSN: 1367-2630, JCR Q1), 14, 085015, WOS:000307837400001, 2012.
24. **Octavian DĂNILĂ**, P. E. Sterian, A. R. Sterian, *Perspectives on entangled nuclear particle pairs generation and manipulation in quantum communication and cryptography systems*, Adv. High Energ. Phys. (eISSN: 1687-7365, JCR Q2), 801982, WOS:000312318700001, 2012.
25. **Octavian DĂNILĂ**, M. De Micheli, P. Aschieri, P. Sterian, *Theoretical studies and simulation of graded index segmented LiNbO₃ waveguides for quantum communications*, J. Optoelect. Adv. Mat. (ISSN:1454-4164, JCR Q4) 6(1), pp. 40-43, WOS:000302580300009, 2012.
26. C. Roșu, D. Mănăilă-Maximean, S. Kundu, P. L. Almeida, **Octavian DĂNILĂ**, *Perspectives on the electrically-induced properties of electrospun cellulose/liquid crystal devices*, J. Elstat. (ISSN: 0304-3886, JCR Q2) 69(6), pp. 623-630, WOS:000296936700024, 2011.
27. D. Mănăilă-Maximean, C. Roșu, **Octavian DĂNILĂ**, D. Donescu, M. Ghiurea, F. Cotorobai, *Electrical field induced properties of nematic liquid crystal/copolymer particles composite*, UPB Sci. Bull. A (ISSN: 1223-7027, JCR Q4) 73(2), pp. 193-200, WOS:000291565500019, 2011.

III. LISTA ALTOR LUCRĂRI ȘI CONTRIBUTII ȘTIINȚIFICE INDEXATE WoS OTHER ISI-INDEXED PAPERS AND CONTRIBUTIONS

1. A. Bărar, **Octavian DĂNILĂ**, D. Mănăilă-Maximean, V. A. Loiko, *Active spectral absorption control in a tunable liquid crystal/metamaterial structure by polarization plane rotation*, Springer Proceedings ICNBME - Intl. Conf. Nanotech. Biomed. Eng. 4, Chișinău, 77, 299-303, 2020, WOS:000552314200058.
2. D. Mănăilă-Maximean, **Octavian DĂNILĂ**, P. L. Almeida, C. P. Ganea, A. Bărar, T. Staicu, V. A. Loiko, A. V. Konkolovich, A. A. Miskevich, *Polymer dispersed liquid crystals films doped with carbon nanotubes: preparation methods*, SPIE Proc. ATOM-N, 9th Edition, Constanta, Romania, 10977, UNSP 1097700P, WOS:000458717900024.
3. D. Mănăilă-Maximean, A. Bărar, **Octavian DĂNILĂ**, P. L. Almeida, C. P. Ganea, *Impedance spectroscopy and electro-optic switching times of a liquid crystal-hydroxypropyl cellulose network composite*, SPIE Proc. ATOM-N, 9th Ed., Constanța, Romania, 10977, UNSP 1097700P.
4. A. Bărar, **Octavian DĂNILĂ**, D. Mănăilă-Maximean, M. Vlădescu, P. Șchiopu, *Stochastic modelling of hopping charge transport mechanism in organic photovoltaic structures*, SPIE Proc. Photon. for Energ. Sys., 10688, UNSP 1068813, 2018.
5. A. Bărar, D. Mănăilă-Maximean, **Octavian DĂNILĂ**, M. Vlădescu, *Parameter extraction of an organic solar cell using asymptotic estimation and Lambert W function*, SPIE Proc. ATOM-N, 8th Ed., Constanța, Romania, 10010, UNSP 1001034, 2016.
6. D. Mănăilă-Maximean, **Octavian DĂNILĂ**, B. Ștefănescu, R. Bena, C. Roșu, D. Donescu, V. Eugeniu, *Study of a new colloidal composite: polymer-magnetite particles/lyotropic liquid crystal*,

IV. **LISTA BREVETELOR DE INVENTIE**
PATENTS

1. L. Tudor, M. Ganciu-Petcu, O. S. Stoican, I. Bărbuț, G. B. Butoi, **Octavian DĂNILĂ**, P. P. Dincă, C. Diplășu, A. L. Groza, B. V. Mihalcea, A. Surmeian, *Sistem de detecție a radiației ionizante în timp real cu protecție la zgomot electromagnetic*, Patent no. RO-BOPI 131900 B1, awarded in 28.02.2022.

V. **LISTA PROIECTELOR NATIONALE SAU INTERNATIONALE ÎN CALITATE**
DE MEMBRU
NATIONAL AND INTERNATIONAL PROJECTS AS A MEMBER

1. Proiect ELI-RO/OMP/2025_001, acronim DIOEMT, din partea Institutului Național de Fizică și Inginerie Nucleară, în calitate de Director de Proiect, din 01.11.2025 până în prezent. Suma totală contractată: 2,377,766 lei.
2. Proiect Extreme Light Infrastructure (ELI-NP), al Institutului Național de Fizică și Inginerie Nucleară, membru în Departamentul de Implementare al Sistemului Laser de Mare Putere, membru din 2016 până în prezent, director de proiect dr. C. A. Ur.
3. Proiect tip PN-II, acronim „LEOPARD”, al Laboratorului de Plasmă de Temperaturi Joase din Institutul Național de Fizica Laserilor și Plasmei, membru în perioada 2015-2016, director de proiect dr. M. Ganciu-Petcu.
4. Proiect tip IDEI, intitulat „Noi Materiale Compozite cu Cristale Lichide”, UNST Politehnica București, membru în perioada 2010-2011, director de proiect prof. dr. ing. D. Mănăilă-Maximean.

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