

IFIN-HH

1. Generation of ultrarelativistic monoenergetic electron bunches via a synergistic interaction of longitudinal electric and magnetic fields of a twisted laser, Y Shi, D Blackman, D Stutman, A Arefiev, *Physical Review Letters* 126 (23), 234801 (2021)
2. Electron acceleration from transparent targets irradiated by ultra-intense helical laser beams, DR Blackman, Y Shi, SR Klein, M Cernaianu, D Doria, P Ghenuche, A Arefiev, *Communications Physics* 5 (1), 1-13 (2022)
3. D.L. Balabanski, Present-day research opportunities with quasimonochromatic γ beams, *Bulg. Phys. J.* 48, 597-607 (2021)
4. Yi Xu, D.L. Balabanski, C. Matei, *Studies of nuclear strength functions with higher multiplicities ($L > 1$) with OAM photon beams*, *Phys. Rev. C* (in preparation)
5. M. Cernaianu et al., *Helical Plasma Mirrors*, in preparation
6. M. Cernaianu et al., *Ion acceleration with helical laser beams*, in preparation
7. P. Ghenuche et al., *Electron acceleration with helical laser beams* in preparation
8. M. Cernaianu et al, *Investigation of the effects of helical laser light with liquid crystal targets*, in preparation
9. Talposi, Anda-Maria, Vicentiu Iancu, and Daniel Ursescu: "Influence of Spatio-Temporal Couplings on Focused Optical Vortices" *Photonics* 9, no. 6: 389, 2022.
<https://doi.org/10.3390/photonics9060389>

INFLPR

1. A. Craciun and T. Dascalu, "A method to generate vector beams with adjustable amplitude in the focal plane," *Appl. Sci.* 10(7), 2313 (2020). <https://doi.org/10.3390/app10072313>
2. A. Craciun and T. Dascalu, "Generation of cylindrical vector beams with adjustable diffraction pattern in the focal plane," in Conference on Lasers and Electro-Optics, OSA Technical Digest (Optical Society of America, 2020), paper JTU2F.10.
https://www.osapublishing.org/abstract.cfm?uri=CLEO_AT-2020-JTU2F.10
3. A. Craciun, O. Grigore, T. Dascalu, "Theoretical and experimental study of the vector beams generated with an axicon pair and uniaxial crystals," 2021 Conference on Lasers and Electro-Optics/Europe - European Quantum Electronics Virtual Conferences (CLEO/Europe-EQEC 2021), 21-25 June 2021, paper CL-P.5.
https://www.osapublishing.org/abstract.cfm?uri=CLEO_Europe-2021-cl_p_5
4. A. Craciun, T. Dascalu, "Sistem Optic pentru Producerea de Fascicule Optice Elicolidal Vectoriale," OSIM patent application A/00657, 17.10.2019; Derwent Primary Accession Number: 2020-C1184G.
5. A. Craciun, T. Dascalu, "Optical System for Generation of Vortex Beams," European patent application EP 3809188 A1; application EP20020478.2 / 15.10.2020.
6. O.-V. Grigore, A. Craciun, "Method for exploring the topological charge of an optical vortex generated by a spiral phase plate," *Opt. Laser Technol.* 141, 107098 (2021).
<https://doi.org/10.1016/j.optlastec.2021.107098>
7. O.-V. Grigore, A. Craciun, N. Pavel, T. Dascalu, "Exploring the topological charge and shape of an optical vortex generated with wavelength-detuned spiral phase plates," 2021 Conference on Lasers and Electro-Optics/Europe - European Quantum Electronics Virtual Conferences (CLEO/Europe-EQEC 2021), 21-25 June 2021, paper CA-P.15.
https://www.osapublishing.org/abstract.cfm?uri=CLEO_Europe-2021-ca_p_15
8. A. Craciun, T. Dascalu, "Accurate beam propagation methods assisted by ray-tracing," 2021 Conference on Lasers and Electro-Optics/Europe - European Quantum Electronics Virtual Conferences (CLEO/Europe-EQEC 2021), 21-25 June 2021, paper EJ-P.4.
https://www.osapublishing.org/abstract.cfm?uri=EQEC-2021-ej_p_4

9. Diplasu, C. Diplasu; G. Giubega; R. Ungureanu; G. Cojocaru; M. Serbanescu; A. Marcu; E. Stancu; A. Achim; M. Zamfirescu; “Commissioning experiment on laser-plasma electron acceleration in supersonic gas jet at CETAL-PW laser facility,” *Rom. Rep. Phys.* **73**(1), 401 (2021). <http://www.rrp.infim.ro/2021/AN73401.pdf>
10. C. Diplasu, R. Ungureanu, G. Giubega, G. Cojocaru, M. Serbanescu, A. Mihalcea, A. Marcu, “Analysis of ultrashort laser-driven electromagnetic pulses in correlation with electron acceleration in gas target at CETAL PW-laser system,” International Conference on Laser, Plasma and Radiation - Science and Technology, June 7-10, 2022 Bucharest, Romania; poster presentation P3-05. Book of Abstracts, ISSN 2821-7128.
11. G. Giubega, C. Diplasu, R. Ungureanu, G. Cojocaru, A. Marcu, A. Achim, M. Serbanescu, M. Straticiuc, “Measurement of PW Laser Generated Proton Energies based on Monte-Carlo Simulation Calibrations,” 5-th Int. Conf. on Mathematics and Computers in Sciences and Industry, August 25-27, 2018, Corfu, Greece.
12. G. Giubega, C. Diplasu, R. Ungureanu, G. Cojocaru, “Proton acceleration in ultra-intense laser interaction with solid targets at CETAL-PW laser,” Laser Ignition Summer School, July 2-6, 2018, Sibiu, Romania

UB

1. D.I. Palade and V. Baran, *The Schrodinger-Poisson-induction system: Rotational effects in the fluid turbulence of a 2D quantum plasma*, *Romanian Journal of Physics* **63**, 504 (2018)
2. M. Dondera, *Electrons in twisted fields and ponderomotive effects*, *Journal of Physics B – Atomic Molecular and Optical Physics* **53**, 064003 (2020)
3. M. Dondera, *Scattering of an intense laser beam by atomic systems*, *Physical Review A* **105**, 023108 (2022)
4. P.-V. Toma, S. Micluta-Campeanu, M. Boca, A. Nicolin, V. Baran, *Scaling properties of angular momentum transfer for charged particles under Laguerre-Gauss laser pulse*, *AIP Proceedings 2022, in press*
5. V. Dinu and G. Torgrimsson, *Approximating higher-order nonlinear QED processes with first-order building blocks*, *Physical Review D* **102**, 016018 (2020)
6. T. Podszus, V. Dinu, and A. Di Piazza, *Nonlinear Compton scattering and nonlinear Breit-Wheeler pair production including the damping of particle states*, arXiv:2206.10345
7. T. Isdraila, V. Baran, M. Colonna, A.I. Nicolin, M.C. Raportaru, E. Boicu, *An extended Brown-Bolsterli model for pygmy dipole resonance*, *Romanian Journal of Physics* **66**, 304 (2021)
8. C. Parascandolo *et al.*, *Dynamical dipole excitation in the fission of a $^{40}\text{Ca} + ^{152}\text{Sm}$ composite system*, *Physical Review C* **105**, 064611 (2022)