

LIST OF PUBLICATIONS

A. PAPERS PUBLISHED IN PEER-REVIEW JOURNALS

36. A. Broasca, M. Greculeasa, F. Voicu, S. Hau, C. Gheorghe, G. Croitoru, N. Pavel, G. Stanciu, A. Petris, P. Gheorghe, F. Albota, A. Serban, L. Gheorghe, "LGYSB:Nd - high-performance lasing in the near-infrared region," *J. Am. Chem. Soc.* **146**(3), 2196-2207 (2024).
35. G. Croitoru, F. Jipa, N. Pavel, "Laser emission from buried depressed-cladding waveguides inscribed in Nd:YAG ceramics by picosecond-laser beam writing," *Opt. Mater.* **148**, 114772 (2024).
34. C. Dumitrache, N. T. Vasile, G. Croitoru, N. Pavel, "Laser-induced ignition of methane-air mixtures by a four-beam, pulse-burst mode passively Q-switched Nd:YAG/Cr⁴⁺:YAG laser," *Results Phys.* **42**, 105958 (2022).
33. G. Stanciu, F. Voicu, C. A. Brandus, C. E. Tihon, S. Hau, C. Gheorghe, G. Croitoru, L. Gheorghe, M. Dumitru, "Enhancement of the laser emission efficiency of Yb:Y₂O₃ ceramics via multi-step sintering method fabrication," *Opt. Mater.* **109**, 110411 (2020).
32. A. Broasca, M. Greculeasa, F. Voicu, S. Hau, G. Croitoru, C. Gheorghe, N. Pavel, L. Gheorghe, "Efficient near-infrared laser emission and nonlinear optical properties of a newly developed Yb:LYSB laser crystal," *J. Alloys & Comp.* **844**, 156143 (2020).
31. M. Greculeasa, A. Broasca, F. Voicu, S. Hau, G. Croitoru, G. Stanciu, C. Gheorghe, N. Pavel, L. Gheorghe, "Bifunctional La_xNd_yGd_zSc_{4-x-y-z}(BO₃)₄ crystal: Czochralski growth, linear and nonlinear optical properties, and near-infrared laser emission performances," *Opt. & Laser Techn.* **131**, 106433 (2020).
30. L. Gheorghe, A. Broasca, M. Greculeasa, F. Voicu, G. Stanciu, S. Hau, G. Croitoru, C. A. Brandus, C. Gheorghe, F. Khaled, P. Loiseau, G. Aka, "Czochralski-grown La_xGd_yR_zSc_{4-x-y-z}(BO₃)₄ (R = Yb, Nd) crystals - A review of recent developments," *Opt. Mat. X* **7**, 100052 (2020).
29. A. G. Doroshenko, R. P. Yavetskiy, S. V. Parkhomenko, I. O. Vorona, O. S. Kryzhanovska, P. V. Mateychenko, A. V. Tolmachev, E. A. Vovk, V. A. Bovda, G. Croitoru, L. Gheorghe, "Effect of the sintering temperature on the microstructure and optical properties of YAG:Cr,Mg ceramics," *Opt. Mater.* **98**, 109505 (2019).
28. R. P. Yavetskiya, A. G. Doroshenko, S. V. Parkhomenko, I. O. Vorona, A. V. Tolmachev, D. Yu. Kosyanov, A. A. Vornovskikh, A. M. Zakharenko, V. Yu. Mayoroc, L. Gheorghe, G. Croitoru, N. Pavel, V. V. Multian, and V. Ya. Gayvoronsky, "Microstructure evolution during reactive sintering of Y₃Al₅O₁₂:Nd³⁺ transparent ceramics: Influence of green body annealing," *J. Eur. Ceram. Soc.* **39**(13), 3867-3875 (2019).
27. P. Ribes-Pleguezuelo, N. Pavel, E. Beckert, C. Damm, A. Bodemann, O. V. Grigore, G. Croitoru, C. A. Brandus, N. T. Vasile, R. Eberhardt, and A. Tünnermann, "Assembly process and optical performances for a golden laser spark-plug device," *Opt. Eng.* **58**(6), 065101 (2019).
26. G. Stanciu, L. Gheorghe, F. Voicu, S. Hau, C. Gheorghe, G. Croitoru, M. Enculescu, and R.P. Yavetskiy, "Highly transparent Yb:Y₂O₃ ceramics obtained by solid-state reaction and combined sintering procedures," *Ceramics International* **45**(3), 3217-3222 (2019).
25. G. Croitoru (Salamu) and N. Pavel, "Passive Q-Switching by Cr⁴⁺:YAG Saturable Absorber of Buried Depressed-Cladding Waveguides Obtained in Nd-Doped Media by Femtosecond Laser Beam Writing," *Materials* **11**(9), 1689 (2018).
24. N. Pavel, M. Bärwinkel, P. Heinz, D. Brüggemann, G. Dearden, G. Croitoru, O. V. Grigore, "Laser Ignition - Spark Plug Development and Application in Reciprocating Engines," *Prog. Quantum Electron.* **58**, 1-32 (2018).

23. R. P. Yavetskiy, S. V. Parkhomenko, I. O. Vorona, A. V. Tolmachev, D. Yu Kosyanov, V. G. Kuryavyi, V. Yu. Mayorov, L. Gheorghe, G. Croitoru, M. Enculescu, "Effect of green body annealing on laser performance of YAG:Nd³⁺ ceramics," *Ceram. Int.* **44**(4), 4487-4490 (2018).
22. G. Croitoru (Salamu), F. Jipa, and N. Pavel, "Passive Q-switch laser operation of circular, buried depressed-cladding waveguides realized by direct fs-laser beam writing in Nd:YAG/Cr⁴⁺:YAG composite media," *Opt. Mat. Express* **7**(7), 2496-2504 (2017).
21. I. O. Vorona, R. P. Yavetskiy, A. G. Doroshenko, S. V. Parkhomenko, A. V. Tolmachev, V. N. Baumer, D. Yu Kosyanov, V. I. Vovna, V. G. Kuryavyi, M. Greculeasa, L. Gheorghe, S. Hau, C. Gheorghe, G. Croitoru, "Structural-phase state and lasing of 5-15 at.% Yb³⁺:Y₃Al₅O₁₂ optical ceramics," *J. Eur. Cer. Soc.* **37**(13), 4115-4122 (2017).
20. O. V. Grigore, G. Croitoru, T. Dascalu, N. Pavel, "Diode-laser edge-pumped Nd:YAG/YAG lens-shaped composite laser," *Opt. & Laser Techn.* **94**, 86-89 (2017).
19. T. Dascalu, G. Croitoru, O. Grigore, N. Pavel, "High-peak power passively Q-switched Nd:YAG/Cr⁴⁺:YAG composite laser with multiple-beam output," *Photonics Research*, **4**(6), 267-271 (2016).
18. F. Khaled, P. Loiseau, F. Voicu, A. Achim, S. Hau, C. Gheorghe, G. Croitoru, N. Pavel, L. Gheorghe, G. Aka, "Spectroscopic properties and laser performances of Yb:LGSB nonlinear optical crystal," *J. Alloys & Comp.* **688** (Part A), 510-517 (2016).
17. G. Salamu and N. Pavel, "Power scaling from buried depressed-cladding waveguides realized in Nd:YVO₄ by femtosecond-laser beam writing," *Opt. & Laser Techn.* **84**, 149-154 (2016).
16. G. Salamu, F. Jipa, M. Zamfirescu, and N. Pavel, "Watt-Level Output Power Operation from Diode-Laser Pumped Circular Buried Depressed-Cladding Waveguides Inscribed in Nd:YAG by Direct Femtosecond-Laser Writing," *IEEE Photonics Journal* **8**(1), art. 1500209 (2016).
15. N. Pavel, T. Dascalu, G. Salamu, M. Dinca, N. Boicea, and A. Birtas, "Ignition of an automobile engine by high-peak power Nd:YAG/Cr⁴⁺:YAG laser-spark devices," *Opt. Express* **23**(26), 33028-33037 (2015).
14. T. Dascalu, G. Salamu, O. Sandu, M. Dinca, and N. Pavel, "Scaling and passively Q-switch operation of a Nd:YAG laser pumped laterally through a YAG prism," *Opt. & Laser Techn.* **67**, 164-168 (2015).
13. N. Pavel, G. Salamu, F. Jipa, and M. Zamfirescu, "Diode-laser pumping into the emitting level for efficient lasing of depressed cladding waveguides realized in Nd:YVO₄ by the direct femtosecond-laser writing technique," *Opt. Express* **22** (19), 23057-23065 (2014).
12. N. Pavel, G. Salamu, F. Voicu, F. Jipa, and M. Zamfirescu, "Cladding waveguides realized in Nd:YAG laser media by direct writing with a femtosecond-laser beam," *Proceedings of the Romanian Academy Series A - Mathematics Physics Technical Sciences Information Science* **15** (2), 151-158 (2014).
11. G. Salamu, F. Jipa, M. Zamfirescu, and N. Pavel, "Cladding waveguides realized in Nd:YAG ceramic by direct femtosecond-laser writing with a helical movement technique," *Opt. Mater. Express* **4** (4), 790-797 (2014).
10. G. Salamu, F. Jipa, M. Zamfirescu, and N. Pavel, "Laser emission from diode-pumped Nd:YAG ceramic waveguide lasers realized by direct femtosecond-laser writing technique," *Opt. Express* **22** (5), 5177-5182 (2014).
9. G. Salamu, F. Voicu, N. Pavel, T. Dascalu, F. Jipa, and M. Zamfirescu, "Laser emission in diode-pumped Nd:YAG single-crystal waveguides realized by direct femtosecond-laser writing technique," *Rom. Reports in Physics* **65** (3), 943-953 (2013).
8. N. Pavel, G. Salamu, F. Voicu, F. Jipa, M. Zamfirescu, and T. Dascalu, "Efficient laser emission in diode-pumped Nd:YAG buried waveguides realized by direct femtosecond-laser writing," *Laser Physics Letters* **10** (9), 095802 (2013).
7. T. Dascalu, G. Salamu, O. Sandu, F. Voicu, and N. Pavel, "Novel laterally pumped by prism laser configuration for compact solid-state lasers," *Laser Physics Letters* **10** (5), 05580 (2013).
6. G. Salamu, E. Osiac, C. Dascalu, N. Pavel, and T. Dascalu, "Simultaneous Dual-Wavelength Operation at 1.06 and 1.34 μm in Nd-vanadate Laser Crystals," *Laser Physics* **22** (5), 866-871 (2012).

5. O. Sandu, G. Salamu, N. Pavel, T. Dascalu, D. Chuchumishev, A. Gaydardzhiev, and I. Buchvarov, "High-peak power, passively Q-switched, composite, all-poly-crystalline ceramics Nd:YAG/Cr⁴⁺:YAG lasers," *Quantum Electronics* **42** (3), 211-215 (2012).
4. G. Salamu, A. Ionescu, C. A. Brandus, O. Sandu, N. Pavel, and T. Dascalu, "High-Peak Power, Passively Q-switched, Composite, All-Poly-Crystalline Ceramics Nd:YAG/Cr⁴⁺:YAG Laser and Generation of 532-nm Green Light," *Laser Physics* **22** (1), 68-73 (2012).
3. G. Salamu, O. Sandu, F. Voicu, M. Dejanu, D. Popa, S. Parlac, C. Ticos, N. Pavel, and T. Dascalu, "Study of Flame Development in 12% Methane-Air Mixture Ignited by Laser," *Optoelectronics and Advanced Materials - Rapid Communications* **5** (11), 1166-1169 (2011).
2. S. Georgescu, A.M. Voiculescu, G. Salamu, H. Niciu, D. Niciu, M. Popescu, A. Lőrinczi, A. Velea, I.D. Simandan, "Synthesis and luminescence properties of Nd-doped chalcogenide glass (Ge₅As₂S₁₃)(NdCl₃)_x(x=0.3%, 0.5%)," *Chalcogenide Letters* **7** (11), 621-624 (2010).
1. N. Pavel, T. Dascalu, G. Salamu, O. Sandu, A. Leca, and V. Lupei, "Q-switched Nd lasers pumped directly into the ⁴F_{3/2} emitting level," *Opt. Commun.* **282** (24), 4749-4754 (2009).

B. PROCEEDINGS OF INTERNATIONAL CONFERENCES

(Presentations at International Meetings published in extended version)

- 5/C63. N. Pavel, G. Croitoru, O.-V. Grigore, N.-T. Vasile, T. Dascalu, A. Birtas, N. Boicea, M. Dinca, F. Draghici, and R. Chiriac, "Laser spark-plug development: from experimental device to successful engine ignition," *Proc. SPIE* **12170**, Advances in 3OM: Opto-Mechatronics, Opto-Mechanics, and Optical Metrology, 121700M (5 May 2022); <https://doi.org/10.1117/12.2620045>
- 4/C53. A. Birtas, N. Boicea, G. Croitoru, M. Dinca, N. Pavel, F. Draghici, and R. Chiriac, "On the possibility to improve petrol engine operation by laser ignition," *Energy Procedia* **157**, 1022-1028 (2019); Proceeding paper, Technologies and Materials for Renewable Energy, Environment and Sustainability (TMREES), TMREES18, 19-21 Sept. 2018, Athens, Greece. <https://doi.org/10.1016/j.egypro.2018.11.269>
- 3/C45. A. Birtas, N. Boicea, F. Draghici, R. Chiriac, G. Croitoru, M. Dinca, T. Dascalu, and N. Pavel, "On the assessment of performance and emissions characteristics of a SI engine provided with a laser ignition system," *IOP Conf. Ser.: Mater. Sci. Eng.* **252**, art. 012071 (2017); [doi:10.1088/1757-899X/252/1/012071](https://doi.org/10.1088/1757-899X/252/1/012071)
- 2/C19. G. Salamu, F. Voicu, F. Jipa, M. Zamfirescu, T. Dascalu, and N. Pavel, "Laser emission from diode-pumped Nd:YAG cladding waveguides obtained by direct writing with a femtosecond-laser beam," *Proc. SPIE* **9135**, Laser Sources and Applications II, 91351F (May 1, 2014); [doi:10.1117/12.2052250](https://doi.org/10.1117/12.2052250); <http://dx.doi.org/10.1117/12.2052250>
- 1/C11. G. Salamu, A. Ionescu, C. Brandus, O. Grigore, N. Pavel, and T. Dascalu, "Generation of high-peak power 532-nm green pulses from composite, all-ceramics, passively Q-switched Nd:YAG/Cr⁴⁺:YAG laser," *Proc. SPIE* **8882**, ROMOPTO 2012: Tenth Conference on Optics: Micro- to Nanophotonics III, 888206 (June 10, 2013); [doi:10.1117/12.2032267](https://doi.org/10.1117/12.2032267); <http://dx.doi.org/10.1117/12.2032267>

C. COMMUNICATIONS AT INTERNATIONAL CONFERENCES

(Technical Digests, manuscripts up to 3 pages)

78. G. Croitoru, F. Jipa, N. Pavel, "Buried depressed-cladding waveguides inscribed in Nd:YAG ceramics by picosecond-laser beam writing," The 10th Tiny Integrated Laser and Laser Ignition Conference 2024, 24-26 April 2024, Pacifico Yokohama, Yokohama, Japan, presentation TILA-LICp-03 (poster presentation).
77. N. Pavel, O.-V. Grigore, G. Stanciu, G. Croitoru, "Characteristics of Laser Ignition in Methane/Air and Hydrogen/Air Mixtures in a Constant-Volume Combustion Chamber," 2nd International Conference Advances in 3OM: Opto-Mechatronics, Opto-Mechanics and Optical Metrology, 11-14 December 2023, Timisoara, Romania (paper OPT23-13, keynote presentation). Book of Abstracts, ISSN 2810-5249.

76. G. Croitoru and N. Pavel, "Buried depressed-cladding waveguides lasers realized in Nd-doped laser media by direct writing with a fs-laser beam," Markus Pessa International Summer School "New Frontiers in Optical Technologies," 7 - 11 August 2023, Tampere University, Finland (poster presentation).
75. O.-V. Grigore, C. Dumitrache, G. Croitoru, and N. Pavel, "Aspects of CH₄-air mixtures laser ignition by a multi-point, pulse-train passively Q-switched Nd:YAG/Cr⁴⁺:YAG laser," Markus Pessa International Summer School "New Frontiers in Optical Technologies," 7 - 11 August 2023, Tampere University, Finland (poster presentation).
74. G. Stanciu, F. Voicu, C. A. Brandus, C. E. Tihon, S. Hau, C. Gheorghe, G. Croitoru, L. Gheorghe, N. Pavel, "Rare-earths doped Y₂O₃ laser materials," International Conference on Crystal Growth and Epitaxy - ICCGE-20, 30 July - 04 August 2023, Naples, Italy; (poster presentation PS 2 - P30).
73. A. Broasca, M. Greculeasa, F. Voicu, S. Hau, G. Stanciu, C. Gheorghe, G. Croitoru, N. Pavel, L. Gheorghe, "Growth and optical properties of Nd:LYSB as a new laser and nonlinear optical borate crystal," International Conference on Crystal Growth and Epitaxy - ICCGE-20, 30 July - 04 August 2023, Naples, Italy; (oral presentation Optical Crystals 4 - O3).
72. M. Greculeasa, A. Broasca, F. Voicu, G. Stanciu, S. Hau, C. Gheorghe, G. Croitoru, N. Pavel, L. Gheorghe, "Development of LYSB and Yb-doped LYSB crystals as new candidates for the next generation of nonlinear optical and/or laser crystals," International Conference on Crystal Growth and Epitaxy - ICCGE-20 2023, 30 July - 04 August, Naples, Italy; (oral presentation Optical Crystals 6 - O4).
71. G. Croitoru, I. Anghel, F.-M. Voicu, M. Greculeasa, A. Broasca, L.-M. Gheorghe, N. Pavel, "Buried Depressed-Cladding Waveguides Fabricated in RE³⁺:CLNGG Laser Crystals using Direct Laser Writing Technique," 2023 Conference on Lasers and Electro-Optics/Europe - European Quantum Electronics Conferences (CLEO@Europe-EQEC 2023), 26-30 June 2023, presentation CA-P.4 (poster presentation) ; doi: 10.1109/CLEO/Europe-EQEC57999.2023.10232516.
70. C. Dumitrache, G. Croitoru, N. Pavel, "Laser ignition of CH₄-air mixtures by a four-beam passively Q-switched Nd:YAG/Cr⁴⁺:YAG laser operating in burst mode," The 9th Tiny Integrated Laser and Laser Ignition Conference 2022, 19-21 April 2023, Pacifico Yokohama, Yokohama, Japan, presentation TILA-LIC2-02 (oral presentation).
69. L. M. Gheorghe, A. Broasca, M. Greculeasa, F. Voicu, G. Croitoru, S. Hau, C. Gheorghe, N. Pavel, "Yb- and Nd-doped La_xGd_ySc_{4-x-y}(BO₃)₄ (LGSB) as new high performance near-infrared laser crystals," The 9th Tiny Integrated Laser and Laser Ignition Conference 2022, 19-21 April 2023, Pacifico Yokohama, Yokohama, Japan, presentation TILA-LICp-01 (poster presentation).
68. G. Stanciu, F. Voicu, C. A. Brandus, C. E. Tihon, S. Hau, C. Gheorghe, G. Croitoru, L. M. Gheorghe, N. Pavel, "RE³⁺:Y₂O₃ transparent ceramic media realized via a multi-step sintering method," The 9th Tiny Integrated Laser and Laser Ignition Conference 2022, 19-21 April 2023, Pacifico Yokohama, Yokohama, Japan, presentation TILA-LICp-02 (poster presentation).
67. G. Croitoru, I. Anghel, F. Voicu, M. Greculeasa, A. Broasca, L. M. Gheorghe, N. Pavel, "Waveguides realized in RE³⁺:CLNGG laser crystals by direct writing with a fs-laser beam," The 9th Tiny Integrated Laser and Laser Ignition Conference 2022, 19-21 April 2023, Pacifico Yokohama, Yokohama, Japan, presentation TILA-LICp-03 (poster presentation).
66. N. T. Vasile, G. Croitoru, C. Dumitrache, and N. Pavel, "Multi-point, pulse-train laser ignition of methane-air mixtures by a high-peak power passively Q-switched Nd:YAG/Cr⁴⁺:YAG compact laser," 10th EPS-QEOD EUROPHOTON Conference, 28 Aug. - 2 Sept. 2022, Hannover, Germany; presentation TUE-P-1.1. EPJ Web Conf. **267**, 01002 (2022), <https://doi.org/10.1051/epjconf/202226701002>.
65. G. Stanciu, F. Voicu, C. A. Brandus, C. E. Tihon, S. Hau, C. Gheorghe, G. Croitoru, L. Gheorghe, N. Pavel, "Fabrication and laser performances of Nd- and Yb-doped Y₃Al₅O₁₂ transparent ceramics," International Conference on Laser, Plasma and Radiation - Science and Technology, June 7-10, 2022 Bucharest, Romania; poster presentation P2-06.
64. N. T. Vasile, G. Croitoru, N. Pavel, "Multi-point, burst pulse-train laser ignition of methane-air mixtures by a high-peak power passively Q-switched Nd:YAG/Cr⁴⁺:YAG multi-beam laser", The

8th Tiny Integrated Laser and Laser Ignition Conference 2022, 20-22 April 2022, Pacifico Yokohama, Yokohama, Japan, presentation LIC2-03 (oral presentation).

- B5/63. N. Pavel, G. Croitoru, O.-V. Grigore, N.-T. Vasile, T. Dascalu, A. Birtas, N. Boicea, M. Dinca, F. Draghici, R. Chiriac, "Laser Spark-Plug Development - From Experimental Device to Successfully Engine Ignition," 1st International Conference Advances in 3OM: Opto-Mechatronics, Opto-Mechanics and Optical Metrology, 13-16 December 2021, Timisoara, Romania; paper 3OM100-55 (keynote presentation).
62. A. Broasca, M. Greculeasa, F. Voicu, G. Stanciu, S. Hau, C. Gheorghe, G. Croitoru, N. Pavel, L. Gheorghe, "LYSB and Yb-Doped LYSB crystals: Czochralski growth, optical characterization and laser emission performances," OSA Laser Congress Virtual Event, 03 Oct. - 07 Oct. 2021; oral presentation ATh1A.6.
61. G. Stanciu, F. Voicu, C.-A. Brandus, E.-C. Tihon, S. Hau, C. Gheorghe, G. Croitoru, L. Gheorghe, "Development of a new sintering technique for fabricating high-quality Nd³⁺- and Yb³⁺-doped Y₂O₃ Transparent Ceramics," 2021 Conference on Lasers and Electro-Optics/Europe - European Quantum Electronics Virtual Conferences (CLEO@/Europe-EQEC 2021), 21-25 June 2021, presentation CE-P.4 (poster presentation).
60. M. Greculeasa, A. Broasca, F. Voicu, S. Hau, G. Croitoru, C. Brandus, G. Stanciu, C. Gheorghe, L. Gheorghe, "RE-doped LGSB (RE = Nd, Yb) as new high performance near-infrared laser crystals," 2021 Conference on Lasers and Electro-Optics/Europe - European Quantum Electronics Virtual Conferences (CLEO@/Europe-EQEC 2021), 21-25 June 2021, presentation CA-P.7 (poster presentation).
59. A. Broasca, M. Greculeasa, F. Voicu, S. Hau, G. Croitoru, C. Gheorghe, N. Pavel, L. Gheorghe, "New Yb:LYSB bifunctional crystal for efficient near-infrared laser emission and self-frequency doubling conversion," 9th EPS-QEOD Europhoton Virtual Conference, 30 August - 4 September 2020; poster presentation Tu-P1.12.
58. N. Pavel, R. Chiriac, A. Birtas, N. Boicea, F. Draghici, G. Croitoru, and M. Dinca, "Lean-mixture operation of a passenger car gasoline engine ignited by passively Q-switched Nd:YAG/Cr⁴⁺:YAG laser spark plugs," CLEO Europe - EQEC 2019 Conference, 23-27 June 2019, München, Germany, presentation CM-P.13 (poster presentation).
57. L. Gheorghe, M. Greculeasa, A. Broasca, F. Voicu, G. Stanciu, S. Hau, C. Gheorghe, G. Croitoru, and N. Pavel, "Pure, Yb- and Nd-doped La_xGd_ySc_{4-x-y}(BO₃)₄ Czochralski-grown nonlinear optical and laser crystals," TIM 19 Physics Conference, 29 - 31 May 2019, Timisoara, Romania, presentation CM-I02 (invited presentation).
56. F. M. Voicu, L. Gheorghe, M. Greculeasa, A. Broasca, C. Gheorghe, S. Hau, and G. Croitoru, "Nd³⁺ doped La_xGd_ySc_{4-x-y}(BO₃)₄ as bifunctional laser and nonlinear crystal," TIM 19 Physics Conference, 29 - 31 May 2019, Timisoara, Romania, presentation CM-P06 (poster presentation).
55. G. Stanciu, L. Gheorghe, F. Voicu, C. A. Brandus, C. Tihon, G. Croitoru, and N. Pavel, "Fabrication and laser performance of highly transparent Nd:YAG ceramics," TIM 19 Physics Conference, 29 - 31 May 2019, Timisoara, Romania, presentation CM-P08 (poster presentation).
54. P. Ribes-Pleguezuelo, E. Beckert, C. Damm, A. Bodemann, R. Eberhardt, A. Tünnermann, N. Pavel, O. V. Grigore, G. Croitoru, C. A. Brandus, and N. T. Vasile, "The "Golden" Laser Spark Plug Assembly Process," The 7th Laser Ignition Conference, 22-26 April 2019, Pacifico Yokohama, Yokohama, Japan, presentation LIC7-2 (oral presentation).
- B4/53. A. Birtas, N. Boicea, G. Croitoru, M. Dinca, N. Pavel, F. Draghici, R. Chiriac, "On the possibility to improve petrol engine operation by laser ignition," TMREES Conference Series, Technologies and Materials for Renewable Energy, Environment and Sustainability, TMREES18, 19-21 Sept. 2018, Athens, Greece; presentation 175.
52. N. Pavel, G. Croitoru, O. V. Grigore, M. Dinca, T. Dascalu, "Laser ignition - A review of laser spark plug development and achievements on engine ignition," Joint International Student Conference on Photonics & Modern Laser Application Conference 2018, ISCP-INDLAS 2018, September 3-7, 2018, Alba-Iulia, Romania; Plenary lesson; Book of Abstracts ISBN 978-606-16-1001-3; pages 19-21.

51. G. Croitoru and N. Pavel, "Passive Q-switch by Cr⁴⁺:YAG saturable absorber laser operation of circular, buried depressed-cladding waveguides inscribed by fs-laser beam in Nd:YAG and Nd:YVO₄," 8th EPS-QEOD EUROPHOTON CONFERENCE, Solid State, Fibre, and Waveguide Coherent Light Sources, 02-07 September, 2018, Barcelona, Spain; Europhysics Conference Abstracts Volume 42C, ISBN 979-10-96389-10-0; presentation WeP.16 (poster presentation).
50. G. Dearden, N. Pavel, M. Bärwinkel, P. Heinz, D. Brüggemann, G. Croitoru, and O. V. Grigore, "Laser spark plug developments for engine ignition," The 6th Laser Ignition Conference, 23-27 April 2018, Pacifico Yokohama, Yokohama, Japan, presentation LIC3-1 (invited talk).
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