

Refereed articles and refereed letters in scientific journals

1. V. P. Agafonov^{PI}, **B.D. Barmashenko**^S and M. M. Kuznetsov^{CI} (1980), "Simulation of nonequilibrium heat flux allowing for dependencies of the catalytic recombination coefficients on partial pressures and temperatures," *Uchenie zapiski CAGI (The notes of N. N. Zhukovsky Central Aerohydrodynamical Institute)*, No. 4, pp. 46 – 55.
2. **B.D. Barmashenko**^S, V.M. Kuznetsov^{PI} and M.M. Kuznetsov^{CI} (1983), "Nonequilibrium of gas - surface - solid in problems of relaxational gasdynamics," *J. Appl. Mech. and Tech. Phys. (USA)* **24**, No.2, 135 – 44
3. **B.D. Barmashenko**^{PI} (1984), "Visible-light localization and amplification in the boundary-layer under a flow around the critical point of a cooled blunt body," *Ukr. Fiz. Zh. (USSR)* **29**, No.2, 178-83.
4. **B.D. Barmashenko**^{PI} and V.V. Naumov^{CI} (1984), "Amplification of radiation in the boundary layer on the intensively cooled walls of a Laval nozzle," *Kvantovaya elektron., Kiev (USSR)*, No.26, 30 - 38.
5. **B.D. Barmashenko**^{PI}, V.A. Kochelap^{PI} and V.V. Naumov^{CI} (1984), "Waveguide phenomena in solid relaxation gases and its utilization in chemical and gas-dynamic lasers," *Sov. Phys.- Tech. Phys. (USA)* **29**, 1027-1032 (0 citations, IF 0.344, 58/66, Q4).
6. **B.D. Barmashenko**^{PI} (1985), "Theoretical model for photostimulated combustion of dispersed mixtures in an optical resonator," *Kvantovaya elektron., Kiev (USSR)*, No.28, 14 - 28.
7. **B.D. Barmashenko**^{PI} (1985), "Amplification of radiation behind the front of shock wave in high pressure H₂ - F₂ mixtures", *Sov. J. Quant. Electron. (USA)* **15**, 777-780 (0 citations, IF 0.758, 55/208, Q2).
8. **B. D. Barmashenko**^{PI}, V.A. Kochelap^{CI}, E.A. Shvarchuk^{PI} and M.T. Shpak^{CI} (1985), "On the formation mechanism of an active chemical laser medium during the electrical explosion of conductors in the oxidizer atmosphere," *Ukr. Fiz. Zh. (USSR)* **30/7**, 980 - 983.
9. **B.D. Barmashenko**^{PI}, V.A. Kochelap^{PI} and L.Yu. Mel'nikov^{CI} (1985), "Singlet oxygen generator of the atomizer type," *Sov. J. Quantum. Electron. (USA)* **15**, 1346 – 1352 (1 citation, IF 0.758, 55/208, Q2).
10. **B.D. Barmashenko**^{PI}, V.A. Kochelap^{PI} and L.Yu. Mel'nikov^{CI} (1985), "Concerning a generator of singlet oxygen of the atomizing type," *Kvantovaya elektron., Kiev (USSR)*, No.29, 3 - 11.
11. **B. D. Barmashenko**^{PI}, V. A. Kochelap^{PI} and L.Yu. Mel'nikov^{CI} (1987), "Formation of active medium for visible range lasers with chemical pumping by radiational vaporization of metal particles in an oxidizer atmosphere," *Sov. Phys.- Tech. Phys. (USA)* **32**, 786 – 790 (4 citations, IF 0.344, 58/66, Q4).
12. **B.D. Barmashenko**^{PI} and V.A. Kochelap^{PI} (1988), "IR chemical lasers: active medium formation via combustion of finely dispersed metal particles in an oxidizing atmosphere," *Chem. Phys. Lett.* **149**, 68 – 72 (1 citations, IF 2.441, 7/31, Q1).
13. **B.D. Barmashenko**^{PI} and V.A. Kochelap^{CI} (1989), "Self-accelerating photostimulated combustion of disperse media in the optical cavity," *Ukr. Fiz. Zh.* **34**, No. 9, 1327 - 1330.
14. **B. D. Barmashenko**^{PI}, V. A. Kochelap^{CI}, E. A. Shvarchuk^{PI} and M. T. Shpak^{CI} (1989), "Formation of the active medium of an infrared chemical laser by combustion of finely dispersed metal particles in the oxidizer," *Sov. Phys.- Tech. Phys. (USA)* **34**, 432 – 438 (1 citation, IF 0.344, 58/66, Q4).

15. **B.D. Barmashenko**^{PI}, V.A. Kochelap^{PI} and A.I. Landa^{CI} (1989), "Self-accelerated photostimulated combustion of dispersion media in an optical resonator," *Sov. Phys.-Tech. Phys. (USA)* **34**, 72 – 82 (0 citations, IF 0.344, 58/66, Q4).
16. **B. D. Barmashenko**^{PI} and V. A. Kochelap^{CI} (1991), "The possibility of long population inversion in active media for IR chemical lasers," *Chem. Phys.* **190**, 29 – 38.
17. **B. D. Barmashenko**^{PI} and S. Rosenwaks^{PI} (1993), "Theoretical modeling of chemical generators producing O₂(¹Δ) at high pressure for chemically pumped iodine laser," *J. Appl. Phys.* **73**, 1598 – 1611 (15 citations, IF 1.63, 7/62, Q1).
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20. **B. D. Barmashenko**^{PI}, A. Elior^S, E. Lebiush^S and S. Rosenwaks^{PI} (1994), "Modeling of mixing in chemical oxygen-iodine lasers: Analytic and numerical solutions and comparison with experiments," *J. Appl. Phys.* **75**, 7653 – 7665 (29 citations, IF 1.63, 7/62, Q1).
21. A. Elior^S, **B. D. Barmashenko**^{PI}, E. Lebiush^S and S. Rosenwaks^{PI} (1995), "Experiment and modeling of a small scale, supersonic oxygen-iodine laser," *Appl. Physics B* **61**, 37-47 (18 citations, IF 1.388, 11/45, Q1).
22. E. Lebiush^S, **B. D. Barmashenko**^{PI}, A. Elior^S and S. Rosenwaks^{PI} (1995), "Parametric study of the gain in a small scale, grid nozzle supersonic chemical oxygen-iodine laser," *IEEE J. Quant. Electron.* **31**, 903-909 (21 citations, IF 1.606, 5/193, Q1).
23. **B. D. Barmashenko**^{PI} and S. Rosenwaks^{CI} (1995), "Optical extraction efficiency in gas-flow lasers," *Optics Letters* **20**, 1480-1482 (1 citations, IF 2.487, 2/45, Q1).
24. **B. D. Barmashenko**^{PI} and S. Rosenwaks^{CI} (1996), "Analysis of the optical extraction efficiency in gas flow lasers with different types of resonators," *Applied Optics* **35**, 7091-7101 (25 citations, IF 1.074, 13/45, Q2).
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26. I. Blayvas^S, **B.D. Barmashenko**^{PI}, D. Furman^S, S. Rosenwaks^{PI} and M.V. Zagidullin^{CI} (1996), "Power optimization of a small scale chemical oxygen-iodine laser with jet-type singlet oxygen generator," *IEEE J. Quant. Electron.* **32**, 2051-2057 (22 citations, IF 1.606, 5/193, Q1).
27. D. Furman^S, **B. D. Barmashenko**^{PI} and S. Rosenwaks^{PI} (1997), "An efficient supersonic chemical oxygen-iodine laser operating without buffer gas and with simple nozzle geometry," *Appl. Phys. Lett.* **70**, 2341-2343 (16 citations, IF 3.033, 2/62, Q1).
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 34. V. Rybalkin^S, A. Katz^S, E. Bruins^S, D. Furman^S, **B.D. Barmashenko**^{PI} and S. Rosenwaks^{PI} (2002), "Spatial Distribution of the Gain and Temperature across the Flow in a Slit Nozzle Supersonic COIL with Transonic and Supersonic Schemes of Iodine Injection," *IEEE J. Quantum Electronics* **38**, 1398-1405 (12 citations, IF 2.097, 17/203, Q1).
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- pumped cesium vapor laser,” *Opt. Exp.* **24**, 14374-14382 (3 citation, IF 3.148, 14/90, Q1).
59. K. Waichman^{PI}, **B. D. Barmashenko**^{PI} and S. Rosenwaks^{CI} (2017), “Laser power, cell temperature and beam quality dependence on cell length of static Cs DPAL,” *JOSA B* **34**, 279-286 (7 citations, IF 1.731, 41/90, Q2).
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Refereed chapters in collective volumes

1. **B.D. Barmashenko**^{PI} and S. Rosenwaks^{PI} (2003), “Chemical Lasers: COIL,” *Handbook of Laser Technology and Applications*, Institute of Physics, Editors, C. Webb and J. Jones, Vol. 2, 861-880 [22 citations (GS)].

Conference proceedings:

2. **B.D. Barmashenko**^{PI} and V. V. Naumov^{CI} (1982) “Localization of light in the boundary layers with population inversion for the flows of CO₂ - N₂ - H₂O mixtures in a supersonic nozzles,” *Kinetic and gasdynamic processes in nonequilibrium gases/* Ed. A. M. Prokhorov, Moscow State University Publ., p. 26, in Russian.
3. **B.D. Barmashenko**^{PI} (1982), “Amplification and localization of light in the boundary layer with the reaction of atomic photorecombination,” *Kinetic and gasdynamic processes in nonequilibrium gases/* Ed. A. M. Prokhorov, Moscow State University Publ., pp. 43 - 44, in Russian.
4. V.A. Kochelap^{PI}, **B.D. Barmashenko**^{PI}, I.A. Ismailov^{CI} and L.Yu. Mel'nikov^{CI} (1984), “Singlet oxygen of high density and its utilisation in electronic transition lasers,” *Gas Flow and Chemical Lasers*, Editors, A. S. Kaye and A. C. Walker, Adam Hilger Ltd., pp. 175 - 80.
5. **B. D. Barmashenko**^{PI}, V.A. Kochelap^{PI} and L.Y. Melhnikov^{CI} (1989), “Formation of active medium for IR and visible chemical lasers during the combustion of finely dispersed metal particles in the oxidizer,” *Proc. SPIE* **1301**, 428-432.
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7. **B.D. Barmashenko**^{PI}, A. Elior^S, E. Lebiush^S and S. Rosenwaks^{PI} (1993), “The effect of mixing on iodine dissociation, population inversion and lasing in chemical oxygen-iodine laser,” *Proc. SPIE* **1810**, 513 – 516 (2 citations).
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9. **B.D. Barmashenko**^{PI}, A. Elior^S, E. Lebiush^S and S. Rosenwaks^{PI} (1994), “Gain and power in COILs - Theory and Experiment,” *AIAA* **94-2434**.
10. S. Rosenwaks^{PI}, **B.D. Barmashenko**^{PI}, A. Elior^S, E. Lebiush^S and I. Blayvas^S (1995), “Parametric Studies of a Small Scale Supersonic COIL,” *Proc. SPIE* **2502**, 238 - 243.

11. **B.D. Barmashenko**^{PI} and S. Rosenwaks^{PI} (1995), "Theoretical modeling of iodine dissociation in COILs," AIAA **95-1924**.
12. **B.D. Barmashenko**^{PI} and S. Rosenwaks^{CI} (1995), "Simple analytical expressions for the optical extraction efficiency from COILs with different kinds of resonators," AIAA **95-1925**.
13. S. Rosenwaks^{PI}, I. Blayvas^S, **B.D. Barmashenko**^{PI}, D. Furman^S and M.V. Zagidullin^{CI} (1997), "Experimental study of a small scale COIL using a jet type generator of singlet oxygen," Proc. SPIE **3092**, 690-693.
14. **B.D. Barmashenko**^{PI} and S. Rosenwaks^{CI} (1997), "Analysis of lasing in COILs with wide aperture of the mirrors in the resonator," Proc. SPIE **3092**, 682-685 (1 citation).
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16. **B.D. Barmashenko**^{PI}, D. Furman^S and S. Rosenwaks^{CI} (1997), "Modeling of lasing in COILs with stable resonators," AIAA **97-2390**.
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25. S. Rosenwaks^{PI}, **B. D. Barmashenko**^{PI}, E. Bruins^S, D. Furman^S, V. Rybalkin^S and A. Katz^S (2002), "Gain and temperature in a slit nozzle supersonic chemical oxygen-iodine laser with transonic and supersonic injection of iodine," Proc. SPIE **4631**, 23 – 33 (4 citations).
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27. **B.D. Barmashenko**^{PI}, V. Rybalkin^S, A. Katz^S, E. Bruins^S, D. Furman^S and S. Rosenwaks^{PI} (2003), "Mechanisms of COIL operation: experiment and modeling," Proc. SPIE **5120**, 308-315 (5 citations).
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29. **B.D. Barmashenko**^{PI}, V. Rybalkin^S, A. Katz^S and S. Rosenwaks^{PI} (2004), "Parametric study of the Ben-Gurion University efficient chemical oxygen-iodine laser," Proc. SPIE **5448**, 282-293 (2 citations).
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