

## СПИСЪК НА ОСНОВНИТЕ ПУБЛИКАЦИИ (2009-2015)

### НА ХРИСТО ИЛИЕВ

#### *Публикации в международни рецензирани списания:*

1. H. Iliev, D. Chuchumishev, I. Buchvarov, V. Petrov, "Passive mode-locking of a diode-pumped Nd:YVO<sub>4</sub> laser by intracavity SHG in PPKTP," *Opt. Express* **18**, 5754-5762 (2010)  
<https://www.osapublishing.org/oe/abstract.cfm?uri=oe-18-6-5754>
2. H. Iliev, I. Buchvarov, S. Kurimura, V. Petrov, "High-power picosecond Nd:GdVO<sub>4</sub> laser mode locked by SHG in periodically poled stoichiometric lithium tantalate," *Opt. Lett.* **35**, 1016-1018 (2010)  
<https://www.osapublishing.org/ol/abstract.cfm?uri=ol-35-7-1016>
3. Hristo Iliev, Ivan Buchvarov, Sunao Kurimura, Valentin Petrov, "1.34- $\mu\text{m}$  Nd:YVO<sub>4</sub> laser mode-locked by intracavity SHG in periodically-poled stoichiometric lithium tantalate", *Opt. Express* **19**, 21754-5759 (2011)  
<https://www.osapublishing.org/oe/abstract.cfm?uri=oe-19-22-21754>
4. Hristo Iliev, Ivan Buchvarov, Sun Young Choi, Kihong Kim, Fabian Rotermund, Uwe Griebner and Valentin Petrov, "Steady state mode-locking of a 1.34  $\mu\text{m}$  Nd:YVO<sub>4</sub> laser using a single-walled carbon nanotube saturable absorber" *App. Phys. B*, DOI 10.1007/s00340-011-4836-1,(2011).  
<http://link.springer.com/article/10.1007/s00340-011-4836-1>

#### *Публикации в пълен текст в издания на SPIE на международни научни конференции:*

5. H. Iliev, D. Chuchumishev, I. Buchvarov, V. Petrov, "Diode-pumped passively mode-locked laser using SHG in periodically poled crystals" in *International Conference on Ultrafast and Nonlinear Optics 2009*, Proceedings of SPIE Vol. 7501 (SPIE, Bellingham, WA 2009) 750106  
<http://proceedings.spiedigitallibrary.org/proceeding.aspx?articleid=773708>
6. Hristo Iliev, Ivan Buchvarov, Veselin Alexandrov, Sunao Kurimura, Valentin Petrov, " Steady state mode-locking of the Nd:YVO<sub>4</sub> laser operating on the 1.34  $\mu\text{m}$  transition using intracavity SHG in BIBO or PPMgSLT " in *SPIE Photonics West*, Vol. 7912 (2011)  
<http://proceedings.spiedigitallibrary.org/proceeding.aspx?articleid=1349142>
7. Hristo Iliev, Ivan Buchvarov, Sun Young Choi, Kihong Kim, Fabian Rotermund, Valentin Petrov "1.34  $\mu\text{m}$  Nd:YVO<sub>4</sub> laser mode-locked by a single-walled carbon nanotube saturable absorber" in *SPIE Photonics West*, Vol. 8325 (2012)  
<http://proceedings.spiedigitallibrary.org/proceeding.aspx?articleid=1344489>
8. S.M. Gechev, H. Iliev, V. Ganey, J. Mouhovski, "Yb,Na:CaSrF<sub>2</sub> - A promising laser crystal medium in UV - VIS - Near-IR domain", 7th International Conference on Transparent Optical Networks ICTON, 2015, Budapest, Hungary, paper We.B5.5  
<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=7193577&searchWithin=%22First%20Name%22:hristo&searchWithin=%22Last%20Name%22:iliev&newsearch=true>
9. Ivan Kostadinov, Francesco Suriano, Hristo Iliev, Dimitar Draganov, Ivan Buchvarov, Daniele Bortoli, Giorgio Giovanelli, "A smart LIDAR based on compact Nd:YAG laser for atmospheric fine particulate matter", 2017 IEEE International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale (3M-NANO), 2017, Shanghai, China, paper DOI: [10.1109/3M-NANO.2017.8286329](https://doi.org/10.1109/3M-NANO.2017.8286329)  
<http://ieeexplore.ieee.org/document/8286329/>

#### *Публикации в пълен текст в други издания:*

10. Hristo Iliev, Ivan Buchvarov, High power Nd: YVO<sub>4</sub> laser mode-locked by cascading second order nonlinearity, *Annuaire de l'Universite de Sofia "St. Kliment Ohridski", Faculte de Physique*, v. 103, 2010

11. Svilen M. Gechev, Hristo L. Iliev, Tsvetomir M. Gechev, TEM Saed Analysis of (Yb, Na) Co- Doped Lasing Fluoride Crystals, Journal of Chemical Technology and Metallurgy, 53, 2, 386-389, 2018

*Доклади на конференции, публикувани в OSA Technical Digest (online) и IEEE Xplore digital library:*

12. Hristo Iliev, Danail Chuchumishev, Ivan Buchvarov, Sunao Kurimura, Valentin Petrov, Uwe Griebner, Passive mode-locking of a Nd:GdVO<sub>4</sub> laser by intracavity SHG in periodically-poled stoichiometric lithium tantalate, OSA/ ASSP/LACSEA/LS&C 2010, paper AWD5  
<https://www.osapublishing.org/abstract.cfm?uri=ASSP-2010-AWD5>

13. Hristo Iliev, Danail Chuchumishev, Ivan Buchvarov, Sunao Kurimura, Uwe Griebner, and Valentin Petrov, Nd:GdVO<sub>4</sub> laser passively mode-locked by cascaded nonlinearity in periodically-poled lithium tantalite, OSA / CLEO/QELS 2010, paper CMNN3  
<https://www.osapublishing.org/abstract.cfm?uri=cleo-2010-CMNN3&origin=search>

14. Hristo Iliev, Ivan Buchvarov, Sunao Kurimura, Huaijin Zhang, Jiyang Wang, Junhai Liu, Valentin Petrov, Nd:LuVO<sub>4</sub> Laser Passively Mode-Locked by  $\chi(2)$  - Lens Formation in Periodically Poled Stoichiometric Lithium Tantalate, OSA/ ASSP/LACSEA/LS&C 2011, paper AWA14  
<https://www.osapublishing.org/abstract.cfm?uri=ASSP-2011-AWA14>

15. Hristo Iliev, Ivan Buchvarov, Sunao Kurimura, Valentin Petrov, 1.34- $\mu$ m Nd:YVO<sub>4</sub> Laser Mode-Locking by Chi-2 Lensing in Periodically Poled Stoichiometric Lithium Tantalate, OSA/ ASSP/LACSEA/LS&C 2011, AWA16  
<https://www.osapublishing.org/abstract.cfm?uri=ASSP-2011-AWA16>

16. Hristo Iliev, Ivan Buchvarov, Valentin Petrov, Nd:YVO<sub>4</sub> Laser Mode-Locking at 1.34  $\mu$ m by Negative  $\chi(2)$  - Lens Formation in an Intracavity BIBO Crystal, OSA / CLEO/QELS 2011, paper CMH2  
[https://www.osapublishing.org/abstract.cfm?uri=cleo\\_si-2011-CMH2&origin=search](https://www.osapublishing.org/abstract.cfm?uri=cleo_si-2011-CMH2&origin=search)

17. Hristo Iliev, Ivan Buchvarov, Valentin Petrov, Chi(2)-lens Mode Locking of a 1.34  $\mu$ m Nd:GdVO<sub>4</sub> Laser In-band Pumped by a 880 nm Laser Diode, CLEO Europe-EQEC 2011, paper CA8.2  
[https://www.osapublishing.org/abstract.cfm?uri=cleo\\_europe-2011-CA8\\_2&origin=search](https://www.osapublishing.org/abstract.cfm?uri=cleo_europe-2011-CA8_2&origin=search)

18. Hristo Iliev, Ivan Buchvarov, Sergey Gagarsky, A. Stalnionis, Steady-state Operation of Pulsed Pumped Self Mode Locked Nd:YVO<sub>4</sub> Laser using Electro-optical Feedback Control, CLEO Europe-EQEC 2011, paper CA.P.14  
[https://www.osapublishing.org/abstract.cfm?uri=cleo\\_europe-2011-CA\\_P14&origin=search](https://www.osapublishing.org/abstract.cfm?uri=cleo_europe-2011-CA_P14&origin=search)

19. Hristo Iliev and Ivan Buchvarov,  $\chi(2)$ -Lens Mode Locking of Nd:YVO<sub>4</sub> Laser Operating at 1.34 $\mu$ m, FiO/LS 2011, paper FTuK2  
<https://www.osapublishing.org/abstract.cfm?uri=FiO-2011-FTuK2>

20. Hristo Iliev, Ivan Buchvarov, Sun Young Choib, Kihong Kim, Fabian Rotermund and Valentin Petrov, 1.34  $\mu$ m Nd:YVO<sub>4</sub> laser mode-locked by a single-walled carbon nanotube saturable absorber, SPIE Photonics WEST 2012, paper 8235-12  
<http://spie.org/Publications/Proceedings/Paper/10.1117/12.907267>

21. Hristo Iliev; Veselin Aleksandrov ; Ivan C. Buchvarov; Zhang Huaijin; Jiyang Wang; Junhai Liu; Valentin Petro, In-band Pumped Nd:LuVO<sub>4</sub> Laser Mode-locked by Negative  $\chi(2)$ -lens Formation in an Intracavity LBO Crystal, OSA / CLEO/QELS 2012, paper CF3L.7  
[https://www.osapublishing.org/abstract.cfm?uri=cleo\\_si-2012-CF3L.7&origin=search](https://www.osapublishing.org/abstract.cfm?uri=cleo_si-2012-CF3L.7&origin=search)

22. V. Aleksandrov, H. Iliev, L. Zheng, L. Su, J. Xu, G. Aka, I. Buchvarov, Passive Mode-locking of a Diode Pumped Nd:ScYSiO<sub>5</sub> Laser, CLEO Europe-EQEC 2013, paper CA-P.11  
[https://www.osapublishing.org/abstract.cfm?uri=cleo\\_europe-2013\\_CA\\_P\\_11&origin=search](https://www.osapublishing.org/abstract.cfm?uri=cleo_europe-2013_CA_P_11&origin=search)

23. B. Oreshkov, V. Aleksandrov, H. Iliev, A. Trifonov, I. Buchvarov, "1.5 kW Burst of Picosecond Pulses with Scalable Energy and Average Power Generated by Diode Pumped Nd-laser System", CLEO Europe-EQEC 2013, paper CA-P.7  
[https://www.osapublishing.org/abstract.cfm?uri=cleo\\_europe-2013-CA\\_P\\_7&origin=search](https://www.osapublishing.org/abstract.cfm?uri=cleo_europe-2013-CA_P_7&origin=search)

24. B. Oreshkov, V. Aleksandrov, H. Iliev, A. Trifonov, I. Buchvarov, "High Average Power, Kilowatt Bursts of 6 ps Pulses", CLEO 2013, paper CTh4I.6  
[https://www.osapublishing.org/abstract.cfm?uri=cleo\\_si-2013-CTh4I.6&origin=search](https://www.osapublishing.org/abstract.cfm?uri=cleo_si-2013-CTh4I.6&origin=search)
25. Bozhidar Oreshkov, Veselin Aleksandrov, Hristo Iliev, Anton Trifonov, Ivan Buchvarov, High Average Power, Nd-based Laser System, Generating 1.5 kW Burst of 6-ps Laser Pulses, FiO/LS 2013, paper LTh4F  
<https://www.osapublishing.org/abstract.cfm?uri=LS-2013-LTh4F.6>
26. V. Aleksandrov, H. Iliev, A. Trifonov, L. Zheng, J. Xu, L. Su, and I. Buchvarov, Passive Mode Locking of a Diode Pumped Nd:Sc<sub>0.2</sub>Y<sub>0.8</sub>SiO<sub>5</sub> Laser, OSA / CLEO 2014, paper JT4A.127.  
[https://www.osapublishing.org/abstract.cfm?uri=cleo\\_qels-2014-JT4A.127&origin=search](https://www.osapublishing.org/abstract.cfm?uri=cleo_qels-2014-JT4A.127&origin=search)
27. V. Aleksandrov, T. Grigorova, H. Iliev, A. Trifonov, I. Buchvarov,  $\chi^{(2)}$ -Lens Mode-Locking of a High Average Power Nd:YVO<sub>4</sub> Laser, OSA / CLEO 2014, paper SM4F.3  
[https://www.osapublishing.org/abstract.cfm?uri=cleo\\_si-2014-SM4F.3&origin=search](https://www.osapublishing.org/abstract.cfm?uri=cleo_si-2014-SM4F.3&origin=search)
28. B. Oreshkov, D. Chuchumishev, H. Iliev, A. Trifonov, Torsten Fiebig, Claus-Peter Richter, I. Buchvarov, 52-mJ, kHz-Nd:YAG Laser with Diffraction Limited Output, OSA /CLEO 2014, paper JW2A.84.  
[https://www.osapublishing.org/abstract.cfm?uri=cleo\\_si-2014-JW2A.84&origin=search](https://www.osapublishing.org/abstract.cfm?uri=cleo_si-2014-JW2A.84&origin=search)
29. Danail Chuchumishev, Hristo Iliev, Bozhidar Oreshkov, Anton Trifonov, Ivan Stefanov, Ivan Buchvarov, Self-seeded, Single-frequency Nd:YAG Q-switched Micro Laser with 1.7-ns, 1-mJ pulses at 1 kHz, ASSL 2014, paper ATh2A.37.  
<https://www.osapublishing.org/abstract.cfm?uri=assl-2014-ATh2A.37&origin=search>
30. V. Aleksandrov, H. Iliev, I. Buchvarov, " $\chi^{(2)}$ -Lens Mode-Locking of a Nd:YVO<sub>4</sub> Laser with High Average Power and Repetition Rate up to 600 MHz", CLEO:2015, OSA Technical Diges, paper JW2A.76  
[https://www.osapublishing.org/abstract.cfm?uri=cleo\\_at-2015-JW2A.76&origin=search](https://www.osapublishing.org/abstract.cfm?uri=cleo_at-2015-JW2A.76&origin=search)
31. V. Aleksandrov, H. Iliev, X. Xu, J. Xu, I. Buchvarov, "Transform-Limited Ultrashort Pulse Generation by  $\chi^{(2)}$ -Lens Mode-Locking of Nd:LuYAG Laser with Inhomogeneously Broadened Gain Bandwidth", CLEO/Europe-EQEC 2015, paper CA-P.40 SUN  
[http://www.cleoeurope.org/documents/ECLEO-EQEC2015\\_Draft\\_Program\\_1st\\_April.pdf](http://www.cleoeurope.org/documents/ECLEO-EQEC2015_Draft_Program_1st_April.pdf)
32. H. Iliev, B. Oreshkov, D. Chuchumishev, A. Trifonov, I. Stefanov, I. Buchvarov, "Single-frequency Nd:YAG Q-switched Micro-laser with 1.7-ns, 1.6-mJ Pulses at 1 kHz", CLEO/Europe-EQEC 2015, paper CA-11.4  
[http://www.cleoeurope.org/documents/ECLEO-EQEC2015\\_Draft\\_Program\\_1st\\_April.pdf](http://www.cleoeurope.org/documents/ECLEO-EQEC2015_Draft_Program_1st_April.pdf)
33. Veselin Aleksandrov, Hristo Iliev, Ivan Buchvarov,  $\chi^{(2)}$ -Lens Mode-Locking of a Yb:YAG Laser Using Intracavity SHG in a LBO crystal, ASSL 2015, paper ATh2A.40.  
<https://www.osapublishing.org/abstract.cfm?uri=assl-2015-ATh2A.40&origin=search>

*Доклади на други конференции:*

34. Hristo Iliev, Anton Trifonov, Ivan Bucvarov - Development of a passively mode-locked all solid-state diode-pumped Nd laser , Meetings in Physics 2009
35. H.Iliev , A. Stalnionis ,D. Draganov, I. Buchvarov, Mode-locking of electro-optically feedback controlled CW pumped Nd: YVO<sub>4</sub> laser, International Conference on Ultrafast and Nonlinear Optics 2009, paper UFL-P4
36. H.Iliev , I. Buchvarov, 1.3  $\mu$ m Nd:YVO<sub>4</sub> laser, mode locked by second-harmonic generation in bismuth triborate (BiBO) nonlinear crystal, Meetings in Physics 2010
37. Hristo Iliev, Ivan Buchvarov, Sunao Kurimura, Valentin Petrov, 1.3- $\mu$ m Nd:YVO<sub>4</sub> laser mode locked by cascaded  $\chi^{(2)}$  lens formation in periodically-poled stoichiometric lithium tantalate, poster presentation at 4th EPS-QEOD Europhoton Conference, 2010, paper TuP23

38. Hristo Iliev, Valentin petrov and Ivan Buchvarov, Steady-state Mode Locking of a Nd YVO<sub>4</sub> operating on the 1.34 μm transition, ALT, 2011, paper P-4-UF  
Hristo Iliev, Veselin Alexandrov, Ivan Buchvarov, Huaijin Zhang, Jiyang Wang, and Valentin Petrov, Generation of 1.6 ps by  $\chi^{(2)}$ -lens Mode Locking of an In-band Pumped Nd:LuVO<sub>4</sub> Laser, poster presentation at 5th EPS-QEOD Europhoton Conference, 2012, paper ThP.4  
<http://2012.europhoton.org/files/ep2012print.pdf>
39. V. Aleksandrov, H. Iliev, L. Zheng, L. Su, J. Xu, G. Aka and I. Buchvarov, “Passive mode-locking of a Diode pumped Nd:ScYSiO<sub>5</sub> laser”, втори национален конгрес по визически науки, България, 2013.
40. B. Oreshkov, V. Aleksandrov, H. Iliev, A. Trifonov, I. Buchvarov, “1.5 kW BURST OF PICOSECOND PULSES WITH SCALABLE ENERGY AND AVERAGE POWER”, втори национален конгрес по физически науки, България, 2013.
41. V. Aleksandrov, T. Grigorova, H. Iliev, I. Buchvarov, “ $\chi^{(2)}$ -Lens Mode-Locking of High Average Power Nd:YVO<sub>4</sub> Laser NSCP, Пловдив, 2013
42. Veselin Aleksandrov, Teodora Grigorova, Hristo Iliev, Ivan Buchvarov,  $\chi^{(2)}$ -lens mode-locking of a Nd:YVO<sub>4</sub> laser with high average power and repetition rate up to 600 MHz, 6th EPS-QEOD Europhoton Conference 2014, paper TuP-T1-P-18.  
<http://www.europhoton.org/files/europhoton%202014%20web-2.pdf>

#### **Изобретения:**

43. Разработване и внедряване на мощна пренастройваема лазерна система в инфрачервената област. Разработвана в проекта система е защитена с действащ полезен модел с номер: 2192 - 13.12.2014. (2010)  
[https://portal.bpo.bg/bpo\\_online?p\\_p\\_id=bposervicesportlet\\_WAR\\_bposervicesportlet&p\\_p\\_lifecycle=0&p\\_p\\_state=normal&p\\_p\\_mode=view&bposervicesportlet\\_WAR\\_bposervicesportlet\\_facesViewIdRender=%2Futility-model%2Findex.xhtml](https://portal.bpo.bg/bpo_online?p_p_id=bposervicesportlet_WAR_bposervicesportlet&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&bposervicesportlet_WAR_bposervicesportlet_facesViewIdRender=%2Futility-model%2Findex.xhtml)
- 44.