

Publications

Books:

1. Néda Zoltán, Libál András, Kovács Katalin, *Elemi kvantummechanika*, Presa Universitară Clujeană (2006); ISBN 973-610-399-4
2. Néda Zoltán, Libál András, Horvát Szabolcs, Kovács Katalin, *Kvantummechanika II.*, available at: <http://www.phys.ubbcluj.ro/znedae/edu/files/ln2.html>

Research articles in ISI journals:

26. B. Major, K. Kovacs, V. Tosa, P. Rudawski, A. L'Huillier, K. Varju, *The effect of plasma-core induced self-guiding on phase matching of high-order harmonic generation in gases*, JOSA B **36** (6) (2019)
25. K. Kovács et al., *Multi-parameter optimization of a loose focusing high flux high-harmonic beamline*, J. Phys. B At. Mol. Opt. Phys. **52** (5), 055402 (2019), DOI: [10.1088/1361-6455/aaff7f](https://doi.org/10.1088/1361-6455/aaff7f)
24. A.M.M. Gherman, K. Kovacs, M.V. Cristea, V. Tosa, *Artificial Neural Network Trained to Presict High-Harmonic Flux*, App. Sci. Basel **8** (11), 2016 (2018), DOI: [10.3390/app8112106](https://doi.org/10.3390/app8112106)
23. Rivas, D. E.; Major, B.; Weidman, M.; et al., Propagation-enhanced generation of intense high-harmonic continua in the 100-eV spectral region, OPTICA **5** (10), 1283-1289 (2018), DOI: [10.1364/OPTICA.5.001283](https://doi.org/10.1364/OPTICA.5.001283)
22. B. Major, E. Balogh, K. Kovacs et al., *Spectral shifts and asymmetries in mid-infrared assisted high-order harmonic generation*, JOSA B **35** (4), A32-A38 (2018), DOI: [10.1364/JOSAB.35.000A32](https://doi.org/10.1364/JOSAB.35.000A32)
21. V. Tosa, K. Kovacs, D. Ursescu, K. Varju, *Characteristics of femtosecond laser pulses propagating in multiply ionized rare gases*, Nucl. Instr. Meth. B **408**, 271-275 (2018), DOI: [10.1016/j.nimb.2017.05.031](https://doi.org/10.1016/j.nimb.2017.05.031)
20. K. Kovacs, M. Negro, C. Vozzi, S. Stagira, V. Tosa, *Attosecond lighthouse above 100eV from high-harmonic generation of mid-infrared pulses*, J. Opt. **19** (10), 104003 (2017), DOI: [10.1088/2040-8986/aa802b](https://doi.org/10.1088/2040-8986/aa802b)
19. C. M. Heyl, H. Coudert-Alteirac, M. Miranda, M. Louisy, K. Kovacs, V. Tosa, E. Balogh, K. Varjú, A. L'Huillier, A. Couairon, and C. L. Arnold,

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18. Tosa V., [Kovacs K.](#), Major B., Balogh E., Varju K., *Propagation effects in highly ionised gas media*, QUANTUM ELECTRONICS **46**, 321-326 (2016) DOI: [10.1070/QEL16039](https://doi.org/10.1070/QEL16039)

17. [K. Kovacs](#), V. Tosa, B. Major, E. Balogh, K. Varju, *High-Efficiency Single Attosecond Pulse Generation With a Long-Wavelength Pulse Assisted by a Weak Near-Infrared Pulse*, IEEE Journal of Selected Topics in Quantum Electronics, **21**(5), (2015) DOI: [10.1109/JSTQE.2015.2411580](https://doi.org/10.1109/JSTQE.2015.2411580)

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14. Kovacs, K; Balogh, E; Tosa, V; Varju, K, *Tunable Generation of High-Order Harmonics by IR and THz Fields*, PROCESSES IN ISOTOPES AND MOLECULES (PIM 2013) Book Series: AIP Conference Proceedings **1565**, 117-121, (2014) DOI:[10.1063/1.4833709](https://doi.org/10.1063/1.4833709)

13. [Katalin Kovács](#), Emeric Balogh, János Hebling, Valer Toşa, and Katalin Varjú, *Quasi-Phase-Matching High-Harmonic Radiation Using Chirped THz Pulses*, Phys. Rev. Lett. **108**, 193903 (2012) DOI: [10.1103/PhysRevLett.108.193903](https://doi.org/10.1103/PhysRevLett.108.193903)

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3. K. Kovács and Z. Néda, *Disorder-driven Phase Transition in a Spring-block type Magnetization Model*, Physics Letters A, **361**, 18 (2007) DOI: [10.1016/j.physleta.2006.08.086](https://doi.org/10.1016/j.physleta.2006.08.086)
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1. Arnold C. L. et al, Energy scaling of gas nonlinear optics, 30TH ANNUAL CONFERENCE OF THE IEEE PHOTONICS SOCIETY (IPC) Book Series: IEEE Photonics Conference Pages: 503-504 Published: 2017
2. Heyl, C.M et al., Scale-Invariant Nonlinear Optical Effects in Gases, 2016 CONFERENCE ON LASERS AND ELECTRO-OPTICS (CLEO) Book Series: Conference on Lasers and Electro-Optics Published: 2016
3. **K. Kovacs**, E. Balogh, V. Tosa, K. Varju, *Tunable Generation of High-Order Harmonics by IR and THz Fields*, PIM 2013 AIP Conference Proceedings **1565**, 117-121 (2013), DOI: [10.1063/1.4833709](https://doi.org/10.1063/1.4833709)
4. **Katalin Kovács**, Emeric Balogh, János Hebling, Valer Toşa, and Katalin Varjú, *Quasi-Phase-Matching High-Harmonics With THz Assistance*, LIGHT AT EXTREME INTENSITIES 2011, AIP Conference Proceedings **1462**, 41-44 (2012) DOI: [10.1063/1.4736756](https://doi.org/10.1063/1.4736756)
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10. Kovács Katalin, Tosa V, *Time-dependent Phase-matching in Attosecond Pulse Generation*, AIP Conference Proceedings **1228**, 408-412 (2010)
11. Valer Tosa and Katalin Kovács, *Numerical model to solve impurities' migration in water pipes*, Journal of Physics: Conference Series, **182**, 012042 (2009)
12. Katalin Kovács and Valer Tosa, *Tracing quantum trajectories of electrons in interaction with arbitrary-shape laser pulses*, Journal of Physics: Conference Series, **182**, 012028 (2009)
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Other publications:

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