

# BIBLIOGRAPHY

Ondřej Haderka (January 1, 2022)

Journals with impact factor (Clarivate Analytics Web of Science)

## 2022

1. J. Peřina Jr., P. Pavlíček, V. Michálek, R. Machulka, O. Haderka: Nonclassicality criteria for N-dimensional optical fields detected by quadratic detectors, *PHYSICAL REVIEW A* 105, 013706, 2022. IF<sub>2020</sub> = 3.140.

## 2021

2. J. Peřina Jr., V. Michálek, R. Machulka, O. Haderka: Two-beam light with checkered-pattern photon-number distributions, *OPTICS EXPRESS* 29, 29704, 2021. IF<sub>2020</sub> = 3.894.
3. J. Peřina Jr., V. Michálek, R. Machulka, O. Haderka: Two-beam light with simultaneous anticorrelations in photon-number fluctuations and sub-Poissonian statistics, *PHYSICAL REVIEW A* 104, 013712, 2021. IF<sub>2020</sub> = 3.140.

## 2020

4. J. Peřina Jr., O. Haderka, V. Michálek: Nonclassicality and entanglement criteria for bipartite optical fields characterized by quadratic detectors. II. Criteria based on probabilities, *PHYSICAL REVIEW A* 102, 043713, 2020. IF<sub>2020</sub> = 3.140.
5. J. Peřina Jr., V. Michálek, O. Haderka: Non-classicality of optical fields as observed in photocount and photon-number distributions, *OPTICS EXPRESS* 28, 32620, 2020. IF<sub>2020</sub> = 3.894.
6. V. Michálek, J. Peřina Jr., O. Haderka: Experimental quantification of the entanglement of noisy twin beams, *PHYSICAL REVIEW APPLIED* 14, 024003, 2020. IF<sub>2020</sub> = 4.985.
7. R. Machulka, J. Peřina, Jr., O. Haderka, A. Allevi, M. Bondani: Waves in intensity coherence of evolving intense twin beams, *PHYSICAL REVIEW A* 101, 063841, 2020. IF<sub>2019</sub> = 3.140.

## 2019

8. J. Perina, O. Haderka, V. Michalek: Simultaneous observation of higher-order non-classicalities based on experimental photocount moments and probabilities, *SCIENTIFIC REPORTS* 9, 8961, 2019. IF<sub>2019</sub> = 3.998.

## 2018

9. J. Perina, V. Michalek, O. Haderka: Reconstruction of Joint Photon-Number Distributions of Twin Beams Incorporating Spatial Noise Reduction, *PHYSICAL REVIEW APPLIED* 10, 064054, 2018. IF<sub>2018</sub> = 4.532.
10. A. V. Bulgakov, I. Mirza, N. M. Bulgakova, V. P. Zhukov, R. Machulka, O. Haderka, E. E. B. Campbell, T. Mocek: Initiation of air ionization by ultrashort laser pulses: evidence for a role of metastable-state air molecules, *JOURNAL OF PHYSICS D-APPLIED PHYSICS* 51, 25LT02, 2018. IF<sub>2018</sub> = 2.829.

## 2017

11. J. Galinis, O. Haderka: Propagation of the twin-beam state from the near field to the far field, *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS* 34, 2406-2413, 2017. IF<sub>2017</sub> = 2.048.
12. J. Peřina Jr., V. Michálek, O. Haderka: Higher-order sub-Poissonian-like nonclassical fields: Theoretical and experimental comparison, *PHYSICAL REVIEW A* 96, 033852, 2017. IF<sub>2017</sub> = 2.909.
13. J. Peřina Jr., I. I. Arkhipov, V. Michálek, O. Haderka: Nonclassicality and entanglement criteria for bipartite optical fields characterized by quadratic detectors. *PHYSICAL REVIEW A* 96, 043845, 2017. IF<sub>2017</sub> = 2.909.
14. J. Peřina Jr., V. Michálek, O. Haderka: Noise Reduction in Photon Counting by Exploiting Spatial Correlations, *PHYSICAL REVIEW APPLIED* 8, 044018, 2017. IF<sub>2017</sub> = 4.782.

15. H. Han, F. Riboni, F. Karlicky, S. Kment, A. Goswami, P. Sudhagar, J. Yoo, L. Wang, O. Tomanec, M. Petr, O. Haderka, C. Terashima, A. Fujishima, P. Schmuki, R. Zboril: alpha-Fe<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub> 3D hierarchical nanostructures for enhanced photoelectrochemical water splitting, *NANOSCALE* 9, 134-142, 2017. IF<sub>2017</sub> = 7.233.

## 2016

16. J. Perina, O. Haderka, A. Allevi, M. Bondani: Internal dynamics of intense twin beams and their coherence, *SCIENTIFIC REPORTS* 6, 8, 22320 (2016). IF<sub>2016</sub> = 4.259.
17. I. Mirza, N. M. Bulgakova, J. Tomaatik, V. Michalek, O. Haderka, L. Fekete, T. Mocek: Ultrashort pulse laser ablation of dielectrics: Thresholds, mechanisms, role of breakdown, *SCIENTIFIC REPORTS* 6, 11, 39133 (2016). IF<sub>2016</sub> = 4.259.
18. I. Arkhipov, J. Perina, O. Haderka, V. Michalek: Experimental detection of nonclassicality of single-mode fields via intensity moments, *OPTICS EXPRESS* 24 (26), 29496-29505 (2016). IF<sub>2016</sub> = 3.307.
19. I. Arkhipov, J. Perina, O. Haderka, A. Allevi, M. Bondani: Entanglement and nonclassicality in four-mode Gaussian states generated via parametric down-conversion and frequency up-conversion, *SCIENTIFIC REPORTS* 6, 12, 33802 (2016). IF<sub>2016</sub> = 4.259.

## 2015

20. O. Haderka, R. Machulka, J. Perina, A. Allevi, M. Bondani: Spatial and spectral coherence in propagating high-intensity twin beams, *SCIENTIFIC REPORTS* 5, 8, 14365 (2015). IF<sub>2015</sub> = 5.228.

## 2014

21. M. Lamperti, A. Allevi, M. Bondani, R. Machulka, V. Michálek, O. Haderka, J. Peřina: Generation of sub-Poissonian non-Gaussian states from multimode twin beams by photon-number-resolving detectors, *INTERNATIONAL JOURNAL OF QUANTUM INFORMATION* 12 (02), 1461017 (2014). IF<sub>2014</sub> = 0.877.
22. A. Allevi, M. Lamperti, O. Jedrkiewicz, J. Galinis, R. Machulka, O. Haderka, J. Peřina Jr., and M. Bondani, Spatio-spectral characterization of twin-beam states of light for quantum state engineering, *INTERNATIONAL JOURNAL OF QUANTUM INFORMATION* 12, 1560027, 2014. IF<sub>2014</sub> = 0.877.
23. A. Allevi, O. Jedrkiewicz, E. Brambilla, A. Gatti, J. Perina Jr., O. Haderka, M. Bondani: Coherence properties of high-gain twin beams, *PHYSICAL REVIEW A* 90, 063812, 2014. IF<sub>2014</sub> = 2.808.
24. R. Machulka, K. Lemr, O. Haderka, M. Lamperti, A. Allevi, M. Bondani: Luminescence-induced noise in single photon sources based on BBO crystals, *JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS* 47, 215501, 2014. IF<sub>2014</sub> = 1.975.
25. O. Haderka, J. Perina Jr., V. Michalek, and M. Hamar, Absolute spectral calibration of an intensified CCD camera using twin beams, *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS* 31, B1-B7, 2014. IF<sub>2014</sub> = 1.970.
26. R. Machulka, O. Haderka, J. Perina Jr., M. Lamperti, A. Allevi, M. Bondani: Spatial properties of twin-beam correlations at low- to high-intensity transition, *OPTICS EXPRESS* 22, 13374-13379, 2014. IF<sub>2014</sub> = 3.488.
27. J. Perina Jr., O. Haderka, A. Allevi, M. Bondani: Absolute calibration of photon-number-resolving detectors with an analog output using twin beams, *APPLIED PHYSICS LETTERS* 104, 041113, 2014. IF<sub>2014</sub> = 3.302.
28. M. Lamperti, A. Allevi, M. Bondani, R. Machulka, V. Michalek, O. Haderka, J. Perina, Jr.: Optimal sub-Poissonian light generation from twin beams by photon-number resolving detectors, *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B* 31, 20-25, 2014. IF<sub>2014</sub> = 1.970.

## 2013

29. A. Allevi, M. Lamperti, M. Bondani, J. Perina, Jr., V. Michalek, O. Haderka, R. Machulka: Characterizing the nonclassicality of mesoscopic optical twin-beam states, *PHYSICAL REVIEW A* 88, 063807, 2013. IF<sub>2013</sub> = 2.991.
30. J. Perina, Jr.; O. Haderka, V. Michalek: Sub-Poissonian-light generation by postselection from twin beams, *OPTICS EXPRESS*, vol. 21, iss. 16, 19387-19394, 2013. IF<sub>2013</sub> = 3.525.
31. J. Perina, Jr.; O. Haderka, V. Michalek, M. Hamar: State reconstruction of a multimode twin beam using photodetection, *PHYSICAL REVIEW A*, vol. 87, iss. 2, 022108, 2013. IF<sub>2013</sub> = 2.991.

32. R. Machulka, J. Svozilik, J. Soubusta, J. Perina, Jr., O. Haderka: Spatial and spectral properties of fields generated by pulsed second-harmonic generation in a periodically poled potassium-titanyl-phosphate waveguide, *PHYSICAL REVIEW A*, vol. 87, iss. 1, 013836, 2013. IF<sub>2013</sub> = 2.991.

## 2012

33. J. Perina, Jr.; O. Haderka, V. Michalek: Absolute detector calibration using twin beams, *OPTICS LETTERS*, vol. 37, iss. 13, 2475-2477, 2012. IF<sub>2012</sub> = 3.385.
34. J. Perina Jr., M. Hamar, V. Michalek, and O. Haderka, "Photon-number distributions of twin beams generated in spontaneous parametric down-conversion and measured by an intensified CCD camera," *PHYSICAL REVIEW A*, vol. 85, iss. 2, 023816, 2012. IF<sub>2012</sub> = 3.042.

## 2010

35. M. Hamar, J. Perina Jr., O. Haderka, and V. Michalek, "Transverse coherence of photon pairs generated in spontaneous parametric down-conversion," *PHYSICAL REVIEW A*, vol. 81, iss. 4, 043827, 2010. IF<sub>2010</sub> = 2.861.

## 2009

36. O. Haderka, V. Michalek, V. Urbasek, and M. Jezek, "Fast time-domain balanced homodyne detection of light," *APPLIED OPTICS*, vol. 48, iss. 15, p. 2884-2889, 2009. IF<sub>2009</sub> = 1.410.
37. J. Perina Jr., A. Luks, O. Haderka, and M. Scalora, "Surface Spontaneous Parametric Down-Conversion," *PHYSICAL REVIEW LETTERS*, vol. 103, iss. 6, 063902, 2009. IF<sub>2009</sub> = 7.328.
38. J. Perina Jr., A. Luks, and O. Haderka, "Emission of photon pairs at discontinuities of nonlinearity in spontaneous parametric down-conversion," *PHYSICAL REVIEW A*, vol. 80, iss. 4, 043837, 2009. IF<sub>2009</sub> = 2.866.
39. M. Hamar, J. Perina Jr., V. Michalek, and O. Haderka, "ANGULAR UNCERTAINTY OF MOMENTUM CORRELATIONS IN PARAMETRIC FLUORESCENCE," *JOURNAL OF RUSSIAN LASER RESEARCH*, vol. 30, iss. 5, p. 540-546, 2009. IF<sub>2009</sub> = 0.748.

## 2008

40. M. Micuda, O. Haderka, and M. Jezek, "High-efficiency photon-number-resolving multichannel detector," *PHYSICAL REVIEW A*, vol. 78, iss. 2, Part B, 025804, 2008. IF<sub>2008</sub> = 2.908.

## 2007

41. J. Perina Jr., O. Haderka, C. Sibilija, M. Bertolotti, and M. Scalora, "Squeezed-light generation in a nonlinear planar waveguide with a periodic corrugation," *PHYSICAL REVIEW A*, vol. 76, iss. 3, 033813, 2007. IF<sub>2007</sub> = 2.893.

## 2005

42. O. Haderka, J. Perina, M. Hamar, and J. Perina, "Direct measurement and reconstruction of nonclassical features of twin beams generated in spontaneous parametric down-conversion," *PHYSICAL REVIEW A*, vol. 71, iss. 3, Part B, 033815, 2005. IF<sub>2005</sub> = 2.997.
43. O. Haderka, J. Perina, and M. Hamar, "Simple direct measurement of nonclassical joint signal-idler photon-number statistics and the correlation area of twin photon beams," *JOURNAL OF OPTICS B- QUANTUM AND SEMICLASSICAL OPTICS*, vol. 7, iss. 12, p. s572-s576, 2005. IF<sub>2005</sub> = 1.691.
44. Z. Bouchal, O. Haderka, and R. Celechovsky, "Selective excitation of vortex fibre modes using a spatial light modulator," *NEW JOURNAL OF PHYSICS*, vol. 7, 125, 2005. IF<sub>2005</sub> = 3.585.

## 2004

45. O. Haderka, M. Hamar, and J. Perina, "Experimental multi-photon-resolving detector using a single avalanche photodiode," *EUROPEAN PHYSICAL JOURNAL D*, vol. 28, iss. 1, p. 149-154, 2004. IF<sub>2004</sub> = 1.692.

## 2003

46. J. Rehacek, Z. Hradil, O. Haderka, J. Perina, and M. Hamar, "Multiple-photon resolving fiber-loop detector," *PHYSICAL REVIEW A*, vol. 67, iss. 6, 061801(R), 2003. IF<sub>2003</sub> = 2.589.
47. J. Soubusta, J. Perina, M. Hendrych, O. Haderka, P. Trojek, and M. Dusek, "Experimental verification of energy correlations in entangled photon pairs," *PHYSICS LETTERS A*, vol. 319, iss. 3-4, p. 251-262, 2003. IF<sub>2003</sub> = 1.324.

## 2001

48. J. Perina, O. Haderka, and J. Soubusta, "Quantum cryptography using a photon source based on postselection from entangled two-photon states," *PHYSICAL REVIEW A*, vol. 64, iss. 5, 052305, 2001. IF<sub>2001</sub> = 2.810.

## 2000

49. J. Bajér, J. Perina, O. Haderka, and A. Miranowicz, "Sub-Poissonian light in third-harmonic generation: Quantum predictions via classical trajectories," *CZECHOSLOVAK JOURNAL OF PHYSICS*, vol. 50, iss. 6, p. 717-726, 2000. IF<sub>2000</sub> = 0.298.
50. J. Rehacek, Z. Hradil, M. Dusek, O. Haderka, and M. Hendrych, "Testing operational phase concepts in quantum optics," *JOURNAL OF OPTICS B-QUANTUM AND SEMICLASSICAL OPTICS*, vol. 2, iss. 3, p. 237-244, 2000. IF<sub>2000</sub> = 0.598.

## 1999

51. M. Dusek, O. Haderka, M. Hendrych, and R. Myska, "Quantum identification system," *PHYSICAL REVIEW A*, vol. 60, iss. 1, p. 149-156, 1999. IF<sub>1999</sub> = 2.639.
52. J. Bajér, O. Haderka, and J. Perina, "Sub-Poissonian behaviour in the second harmonic generation," *JOURNAL OF OPTICS B-QUANTUM AND SEMICLASSICAL OPTICS*, vol. 1, iss. 5, p. 529-533, 1999. IF<sub>2000</sub> = 0.598.
53. M. Dusek, O. Haderka, and M. Hendrych, "Generalized beam-splitting attack in quantum cryptography with dim coherent states," *OPTICS COMMUNICATIONS*, vol. 169, iss. 1-6, p. 103-108, 1999. IF<sub>1999</sub> = 1.352.

## 1998

54. M. Dusek, O. Haderka, and M. Hendrych, "Application of quantum key distribution for mutual identification – Experimental realization," *ACTA PHYSICA SLOVACA*, vol. 48, iss. 3, p. 169-176, 1998. IF<sub>2000</sub> = 0.465.

## 1996

55. O. Haderka, "Properties of the transverse eigenmode set in optical resonators with apertures: Reply," *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION*, vol. 13, iss. 6, p. 1289-1290, 1996. IF<sub>1997</sub> = 1.658.
56. O. Haderka, J. Bajér, and J. Perina, "Global characteristics of the dynamics of degenerate parametric nonlinear processes," *QUANTUM AND SEMICLASSICAL OPTICS*, vol. 8, iss. 6, p. 1159-1167, 1996. IF<sub>1997</sub> = 1.870.

## 1995

57. O. Haderka, "Experimental Investigation of Eigenmodes of Empty Optical Resonators with Apertures", *APPLIED OPTICS*, vol. 34, iss. 33, p. 7656-7661, 1995. IF<sub>1997</sub> = 1.074.
58. O. Haderka, "Influence of Diffraction on Hard-aperture Kerr-lens Mode-locking," *OPTICS LETTERS*, vol. 20, iss. 3, p. 240-242, 1995. IF<sub>1997</sub> = 2.487.
59. O. Haderka, "Properties of the Transverse Eigenmode Set in Optical Resonators with Apertures", *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION*, vol. 12, iss. 2, p. 340-345, 1995. IF<sub>1997</sub> = 1.658.

## 1994

60. O. Haderka, P. Maly, "Dynamics of an Actively Mode-locked Tunable Solid-state Laser in the Case of Detuning", *JOURNAL OF MODERN OPTICS*, vol. 41, iss. 5, p. 927-939, 1994. IF<sub>1997</sub> = 1.063.

## Editorials

1. Allevi, M. Bondani, O. Haderka: Photon-number-resolving detectors for quantum-state engineering: Introduction to the feature issue, *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS* 31, PNR1-PNR2, 2014. IF<sub>2014</sub> = 1.970.

## Refereed journals

1. H. Han, S. Kment, A. Goswami, O. Haderka, R. Zboril: Directly grown TiO<sub>2</sub> nanotubes on carbon nanofibers for photoelectrochemical water splitting, *MRS Advances* 1(46), 3145-3150 (2016), 10.1557/adv.2016.401.
2. R. Machulka, O. Haderka, J. Peřina Jr., J. Soubusta, J. Svozilík, *Periodicky pólované materiály, Jemná mechanika a optika* 56/1, 30 (2012).
3. V. Michálek, M. Hamar, O. Haderka, R. Machulka, J. Peřina Jr., Měření absolutní kvantové účinnosti iCCD kamer, *Jemná mechanika a optika* 56/1, 24 (2012).
4. A. Černocho, O. Haderka, E. Halenková, M. Hamar, D. Javůrek, K. Lemr, R. Machulka, V. Michálek, J. Peřina Jr., J. Soubusta, J. Svozilík, *Experimentální kvantová optika ve Společné laboratoři optiky, Jemná mechanika a optika* 56/1, 16 (2012).
5. O. Haderka, J. Soubusta, H. Chmelíčková, M. Hrabovský, *Pedagogické aktivity ve Společné laboratoři optiky, Jemná mechanika a optika* 56/1, 7 (2012).
6. J. Soubusta, O. Haderka, J. Peřina Jr., M. Hendrych, M. Hamar, R. Myška, P. Pavlíček, V. Urbášek, M. Dušek, R. Filip, J. Fiurášek, P. Trojek, A. Černocho, M. Gavenda, M. Ježek: Summary of the experimental results obtained in the laboratory of proton optics, *Jemná Mech. a Opt.* 1/2005, 20-23.
7. O. Haderka, M. Hamar, J. Peřina Jr.: Analysis of correlated photon pairs using massively multichannel detector, *Jemná Mech. a Opt.* 1/2005, 27-30
8. J. Bajer, O. Haderka, *Deformace tvaru ultrakrátkého pulsu při volném šíření (Deformation of pulse shape during free propagation)* *Jemná Mech. a Opt.* 10/96, 295-298 (1996).

## Book chapters

1. J. Bajer, M. Dušek, J. Fiurášek, Z. Hradil, A. Lukš, V. Peřinová, J. Řeháček, J. Peřina, O. Haderka, M. Hendrych, J. Peřina, Jr., N. Imoto, M. Koashi, A. Miranowicz: Nonlinear phenomena in quantum optics, *Modern Nonlinear Optics, Part 1*, ed. M. Evans, *Advances in Chemical Physics*, vol. 119, pp. 491-601, J. Wiley, New York (2001).
2. E. Mechlová, K. Košťál, eds., *Výkladový slovník fyziky pro základní vysokoškolský kurs*, Prometheus, Praha, 1999. (O. Haderka – kap. 7.2, str. 374-383).

## Proceedings

1. N. M. Bulgakova, V. P. Zhukov, I. Mirza, Y. P. Meshcheryakov, J. Tomastik, V. Michalek, O. Haderka, L. Fekete, A. Rubenchik, M. Fedoruk, T. Mocek, in *Laser Applications in Microelectronic and Optoelectronic Manufacturing*, edited by B. Neuenschwander, S. Roth, C. P. Grigoropoulos and T. Makimura (Spie-Int Soc Optical Engineering, Bellingham, 2016), Vol. 9735, pp. 97350N-1-97350N-16, DOI: 10.1117/12.2217585.
2. M. Bondani, A. Allevi, J. Soubusta, O. Haderka: Joint International Physics Summer School - Optics. In E. Cormier, L. Sarger (eds.) *Conference on Education and Training in Optics and Photonics (ETOP)*, JUN 29 - JUL 02, 2015, Bordeaux, France. SPIE: 2015, Vol. 9793, pp. 979309-1-979301-7. DOI: 10.1117/12.2223057.
3. A. Allevi, M. Lamperti, R. Machulka, O. Jedrkiewicz, E. Brambilla, A. Gatti, J. Perina, O. Haderka, M. Bondani: Effects of pump depletion on spatial and spectral properties of parametric down-conversion, presented at the *Conference on Quantum Optics and Quantum Information Transfer and Processing*, Prague, 2015, Proc. SPIE 9505, 950508 (2015).
4. A. Allevi, O. Jedrkiewicz, O. Haderka, J. Perina, M. Bondani: Evolution of spatio-spectral coherence properties of twin beam states in the high gain regime, *Quantum Optics and Quantum Information Transfer and Processing*, Prague, 2015, Proc. SPIE 9505, 95050s (2015).

5. A. Allevi, J. Galinis, M. Lamperti, R. Machulka, J. Perina, O. Haderka, M. Bondani: Spectral coherence of twin beams by single-shot measurements with a fiber spectrometer, *Quantum Optics and Quantum Information Transfer and Processing*, Prague, 2015, Proc. SPIE 9505, 95050r (2015).
6. J. Peřina Jr., O. Haderka, V. Michálek, Photon-number statistics of twin beams: self-consistent measurement, reconstruction, and properties, *AIP Conference Proceedings*, Vol. 1633, 77-80 (2014).
7. R. Machulka, J. Svozilik, J. Soubusta, J. Perina, Jr., O. Haderka, Spatial and spectral properties of second harmonic generation in a periodically poled KTP waveguide, *Proc. SPIE*, Vol. 8697, UNSP 86972A (2012).
8. M. Hamar, O. Haderka, V. Michálek, J. Peřina Jr., Generation of squeezed states by parametric fluorescence, *Proc. SPIE*, Vol. 8697, UNSP 869725 (2012).
9. O. Haderka, J. Peřina Jr., M. Hamar, V. Michálek, Photon-number resolving detectors, *Proc. SPIE*, Vol. 7746, 774603 (2010).
10. M. Hamar, J. Peřina Jr., O. Haderka, V. Michálek, A. Černocho, J. Soubusta, Correlations in far field of photons emitted by parametric fluorescence, *Proc. SPIE* 7746, 77460T (2010).
11. J. Peřina Jr., J. Peřina, O. Haderka, J. Křepelka, M. Hamar, V. Michálek, M. Bondani, A. Allevi, A. Andreoni: Photocount measurements as a tool for investigation of non-classical properties of twin beams, *Proc. SPIE* 7141, 714104 (2008).
12. J. Peřina Jr., O. Haderka, C. Sibilía, M. Bertolotti, M. Scalora: Periodically corrugated nonlinear planar waveguide as a source of squeezed light, *Proc. SPIE* 6582, 65820L (2007).
13. J. Soubusta, J. Peřina, Jr., O. Haderka, M. Hendrych, M. Dušek: Experimental tests of energy and time entanglement, *Acta Physica Hungarica, Series B: Quantum Electronics* 23 (3-4), 143-150 (2005).
14. M. Hamar, J. Peřina, Jr., O. Haderka: Photon statistics and spatial properties of photon pairs generated by spontaneous parametric downconversion, *Proc. SPIE* 5945, 594501, 1-7 (2005).
15. M. Hamar, J. Peřina, Jr., O. Haderka: Intensified CCD camera - a new tool of research of photon pairs generated in spontaneous parametric downconversion, XV. konference slovenských a českých fyziků, Slovak Physical Society, Košice 2005, pp. 37-38.
16. O. Haderka, J. Peřina, J. Soubusta, Quantum cryptography based on realistic "single-photon" source, *Proceedings of the International Conference "Quantum Information"* (Rochester June 10-13, 2003), Optical Society of America, Rochester, published on CD-ROM "ICQI Conf. Proceedings", N. P. Bigelow, J. H. Eberly, C. R. Stroud, Jr., I. A. Walmsley eds.
17. O. Haderka, J. Peřina, J. Soubusta, Source of photon-number-squeezed light with adjustable level of squeezing, *Coherence and Quantum Optics VIII* (Proc. 8<sup>th</sup> Rochester Conference on Coherence and Quantum Optics, University of Rochester, June 13-16, 2001), N. P. Bigelow, J. H. Eberly, eds., Springer, 2004, pp. 527-528.
18. J. Soubusta, O. Haderka, M. Hendrych, P. Pavlíček, Experimental realization of Quantum random number generator, *Proc. SPIE* 5259, 7-13 (2003).
19. M. Dušek, O. Haderka, M. Hendrych, Practical aspects of quantum cryptography, in: *Quantum Communication, Computing, and Measurement 2* (Proc. 4<sup>th</sup> International Conference on Quantum Communication Measurement and Computing, Evanston, USA, August 22-27, 1998), P. Kumar, G. M. D'Ariano and O. Hirota, eds., 393-398, Kluwer (Dordrecht), 2002.
20. J. Řeháček, Z. Hradil, M. Dušek, O. Haderka, M. Hendrych: Phase estimation in quantum optics, *Proc. SPIE*, 4356, 96-101 (2001).
21. O. Haderka, J. Peřina, Jr., Photon source for quantum cryptography using postselection from entangled quantum states, *Proc. SPIE* 4356, 61-69 (2001).
22. O. Haderka, J. Peřina jr., Approximation of single-photon states by postselection from correlated pairs, refereed paper, *NATO Advanced Research Workshop on Decoherence and its Implications in Quantum Computation and Information Transfer*, June 2000, Mykonos, Greece, proc. ed. by A. Gonis and P.E.A. Turchi, NATO Science Series, Series III: Computer and System Sciences, vol. 182, 186-196, IOS Press, Amsterdam (2001).
23. J. Soubusta, O. Haderka, M. Hendrych, Quantum random number generator, *Proc. SPIE* 4356, 54-60 (2001).
24. O. Haderka, J. Soubusta, M. Hendrych, Kvantový generátor náhodných bitů, *Proc. Conf. Optical communications 2000*, Prague, November 2000, Tech-Market, Prague (2000), pp. 123-127.
25. O. Haderka, M. Hendrych, M. Dušek, Kvantová kryptografie (komunikace pomocí jednotlivých fotonů - konec odposlechu?), *Proc. Conf. Optical communications '99*, Prague, November 1999, 52-62, Tech-Market, Prague (1999).

26. O. Haderka, M. Hendrych, M. Dušek, Experimental implementation of quantum cryptography, Proc. SPIE vol. 3820, 88-93 (1999).
27. O. Haderka, Kvantová kryptografie (Quantum cryptography), Proc. 12th Conf. of Czech and Slovak Physicists, Ostrava, 1996, 319-322.
28. M. Dušek, O. Haderka, M. Hendrych, Physical aspects of optical implementation of quantum cryptography, Proc. 1st Int. Conf. on Theory and Appl. of Cryptology, Pragocrypt, Prague, 234-241 (1996).

### Popularization works

- J. Peřina ml., O. Haderka: Nobelova cena za fyziku 2012, Čs. čas. fyz. 63, 4 (2013).
- J. Řídký a kol., O. Haderka, M. Hrabovský, P. Schovánek: Optika – výzkum, vývoj, aplikace. Čs. čas. fyz. 55, 359-374 (2005).
- M. Dušek, O. Haderka, M. Hendrych, Kvantová kryptografie (Quantum cryptography), popularization video 16', presented at Academia Film Olomouc (1999).
- M. Dušek, O. Haderka, M. Hendrych, Foton jako důvěryhodný kurýr (Photon like a trusted courier), Vesmír **77/11**, 633-637 (1998).
- J. Valenta, O. Haderka, Zkrocené femtosekundy (Tamed femtoseconds), Vesmír **76**, 138-144 (1997).

### Theses and research reports

- K. Lemr, J. Švihel, A. Černoch, V. Urbásek, O. Haderka: Měření světelného zdroje pro společnost Hella, výzkumná zpráva SLO UP a FZÚ AV ČR č. 587/SLO/2019.
- J. Peřina, R. Machulka, O. Haderka, A. Allevi, M. Bondani: Prostorová a spektrální koherence intenzivních párových polí formovaná v nelineárním procesu. výzkumná zpráva SLO UP a FZÚ AV ČR č. 578/SLO/2018.
- V. Michálek, O. Haderka, J. Peřina, M. Hamar, R. Machulka: Měření absolutní kvantové účinnosti iCCD kamer, výzkumná zpráva SLO UP a FZÚ AV ČR č. 382/SLO/2011.
- M. Hamar, V. Michálek, O. Haderka, J. Peřina, R. Machulka: Generace kvantových stavů se zdůrazněnými nebo potlačenými fluktuacemi v počtu fotonů, výzkumná zpráva SLO UP a FZÚ AV ČR č. 386/SLO/2011.
- O. Haderka, R. Machulka: Testing new Andor USB iCCD for low-light imaging applications, výzkumná zpráva SLO UP a FZÚ AV ČR č. 384/SLO/2011.
- O. Haderka et al., Metody čítání fotonů pomocí intenzifikované CCD kamery (Methods of photon-counting using intensified CCD camera), research report of the Joint Laboratory of Optics No. 343/SLO/2008.
- O. Haderka et al., Zpracování obrazu z ICCD kamery pravděpodobnostní metodou (Image Processing from ICCD camera using probabilistic method), research report of the Joint Laboratory of Optics No. 341/SLO/2008.
- O. Haderka et al., Charakterizace kamer Andor I., (Characterization of Andor ICCD cameras I.), research report of the Joint Laboratory of Optics No. 342/SLO/2008.
- M. Hamar, A. Černoch, J. Soubusta, V. Michálek, J. Peřina Jr., O. Haderka, Měření úhlových a spektrálních neurčitostí kvantově provázaných stavů světla v nelineárním krystalu (Measurement of angular and spectral uncertainties of quantum entangled states in a nonlinear crystal), research report of the Joint Laboratory of Optics No. 344/SLO/2008.
- A. Belardini, J. Soubusta et al., Spektra propustnosti vrstevnatých fotonických struktur GaN/AlN (Transmission spectra of GaN/AlN layered photonic structures), research report of the Joint Laboratory of Optics No. 345/SLO/2008.
- J. Peřina, O. Haderka, M. Scalora: Nonclassical properties of pulsed second-subharmonic generation in photonic-band-gap structures, Final technical report for European Research Office of the U.S. Army No. N6255805-P0421, London, England (2007).
- J. Peřina, O. Haderka, M. Scalora: Nonclassical properties of pulsed second-subharmonic generation in photonic-band-gap structures, research report of the Joint Laboratory of Optics No. 303/SLO/2007
- V. Michálek, O. Haderka, M. Hamar, R. Myška: Sledování klimatizace v nových laboratořích, research report of the Joint Laboratory of Optics No. XXX/SLO/2007
- V. Michálek, O. Haderka, M. Ježek, V. Urbásek: Test D/A převodníků Advantech pro účely homodynní detekce (A test of Advantech D/A converters for use in homodyne detection), research report of the Joint Laboratory of Optics No. XXX/SLO/2007
- M. Ježek, V. Urbásek, V. Michálek, O. Haderka, Měření výstřelového šumu světla rychlým homodynním detektorem (Shot noise measurement using a fast homodyne detector), research report of the Joint Laboratory of Optics No. 294/SLO/07 (2007).
- A. Belardini, J. Soubusta, M. Hamar, J. Peřina Jr., O. Haderka, Investigation on twin photons generation in GaN/AlN multilayer photonic crystals, research report of the Joint Laboratory of Optics No. XXX/SLO/2007.
- A. Černoch, O. Haderka, Multikanálový smyčkový detektor počtu fotonů (Multichannel loop detector of photon numbers), research report of the Joint Laboratory of Optics No. XXX/SLO/2007.
- O. Haderka, Použití intenzifikované CCD kamery PI-MAX 512-HQ pro detekci jednotlivých fotonů (The use of an intensified CCD camera for the detection of single photons), research report of the Joint Laboratory of Optics No. 285/SLO/2006 (2006).
- O. Haderka, V. Michálek, Testing an EM-CCD camera for photon counting, research report of the Joint Laboratory of Optics No. 286/SLO/2006 (2006).
- O. Haderka, Zdroje a detektory fotonů pro kvantové komunikace (Sources and detectors of photons for quantum communications), habilitation thesis, Palacký University, Olomouc (2006).
- V. Urbásek, M. Ježek, O. Haderka, Vývoj pulsního homodynního detektoru s šířkou pásma 1 MHz (Development of a pulsed homodyne detector with 1 MHz bandwidth), research report of the Joint Laboratory of Optics No. 277/SLO/06 (2006)
- J. Soubusta, P. Pavlíček, O. Haderka, Generátor náhodných čísel (Random number generator), research report of the Joint Laboratory of Optics No. 232/SLO/2000 (2001).

- V. Urbášek, M. Ježek, O. Haderka, Vývoj pulsního homodynního detektoru s šířkou pásma 100 MHz (Development of a pulsed homodyne detector with 100 Mhz bandwidth), research report of the Joint Laboratory of Optics No. 276/SLO/06 (2006).
- O. Haderka, M. Dušek, M. Hendrych, J. Soubusta, J. Peřina ml., Aplikace kvantové optiky v kryptologii (Applications of quantum optics in cryptology), research report of the Joint Laboratory of Optics No. 212/SLO/2000 (2000).
- O. Haderka, J. Soubusta, Kvantový šumátor (Quantum noise generator), research report of the Joint Laboratory of Optics No. 198/SLO/2000 (2000). (Originally classified; declassified in November 1999).
- O. Haderka, M. Dušek, M. Hendrych, Fyzikální generátor náhodných čísel (Physical random number generator), research report of the Joint Laboratory of Optics No. 190/SLO/99 (1999). (Originally classified; declassified in November 1999).
- O. Haderka, M. Hendrych, J. Peřina jr., Aproximace jednofotonových stavů pomocí korelovaných párů pro účely kvantově kryptografických aplikací (Approximation of single-photon states using correlated pairs for quantum cryptographic applications), research report of the Joint Laboratory of Optics No. 185/SLO/99 (1999).
- O. Haderka, Nonlinear dynamics of laser modelocking, Ph.D. thesis, Faculty of Mathematics and Physics, Charles University, Prague (1995).
- O. Haderka, Přenos energie optickou soustavou (Energy transfer through optical system), undergraduate thesis, Faculty of Science, Palacký University, Olomouc (1991).

## Conferences and seminars

(presenting author underlined)

- J. Peřina Jr., V. Michálek, O. Haderka: Reconstruction of joint photon-number distributions of twin beams incorporating spatial noise reduction, Advances in Foundations of Quantum Mechanics and Quantum Information with atoms and photons, Torino (Italy) 2019, invited lecture.
- R. Machulka, J. Peřina Jr., O. Haderka, A. Allevi, M. Bondani: Evolution of coherence properties of intense twin-beams, Advances in Foundations of Quantum Mechanics and Quantum Information with atoms and photons, Torino (Italy) 2019, poster.
- J. Peřina Jr., I. Arkhipov, V. Michálek, O. Haderka: Higher-order sub-Poissonian-like optical fields, 1st ELI Workshop on Ultrafast Spectroscopy of Solids, Molecules and Biomolecules, Prague (Czech Republic) 2019, invited lecture.
- J. Peřina Jr., V. Michálek, O. Haderka, I. I. Arkhipov: Quantum properties of weak twin beams, Workshop on Current Problems in Physics: Zielona Góra - Lviv, Zielona Góra (Poland) 2019, invited lecture.
- O. Haderka: Quantum correlations and nonlinear dynamics of intense twin beams, invited lecture, HILASE, FZÚ AV ČR, 5. 6. 2019.
- J. Peřina Jr., I. I. Arkhipov, V. Michálek, O. Haderka: Non-classicality criteria for bipartite optical fields characterized by quadratic detectors, 25th Central European Workshop on Quantum Optics, Universitat de les Illes Balears, Palma (Spain), 21.5. - 25.5. 2018, poster.
- J. Peřina Jr., I. I. Arkhipov, V. Michálek, O. Haderka: Higher-order sub-Poissonian-like nonclassical fields, 25th Central European Workshop on Quantum Optics, Universitat de les Illes Balears, Palma (Spain), 21.5. - 25.5. 2018, poster.
- J. Peřina Jr., V. Michálek, I. Arkhipov, O. Haderka: Higher-order sub-Poissonian-like nonclassical fields, 21st Czech-Polish-Slovak Optical Conference on "Wave and quantum aspects of contemporary optics", Lednice (Czech Republic) 3.9. - 7.9. 2018,
- J. Peřina Jr., I. Arkhipov, V. Michálek, O. Haderka: Higher-order sub-Poissonian-like nonclassical fields, The Fourth Poznań Symposium on Quantum Technologies, Nonlinear Optics, Magnonics, and Metamaterials, Poznań (Poland) 28.11. 2018, poster.
- J. Peřina Jr., I. Arkhipov, V. Michálek, O. Haderka: Non-classicality criteria for bipartite optical fields characterized by quadratic detectors, The Fourth Poznań Symposium on Quantum Technologies, Nonlinear Optics, Magnonics, and Metamaterials, Poznań (Poland), 28.11. 2018, poster.
- I. I. Arkhipov, V. Michálek, O. Haderka: Experimental generation of higher-order nonclassical state, 24th Central European Workshop of Quantum Optics, Univ. Lyngby, Copenhagen, 24. 6. - 2. 7. 2017, poster.
- J. Peřina Jr., O. Haderka, A. Allevi, M. Bondani: Internal dynamics of intense twin beams and their coherence, "Advances in Foundations of Quantum Mechanics and Quantum Information with atoms and photons", Univ. Torino and Istituto Nazionale di Ricerca Metrologica, Torino, Italy, 7. -13. 5. 2017, invited lecture.
- J. Peřina Jr., R. Machulka, O. Haderka, A. Allevi, M. Bondani: Spatio-spectral coherence of intense twin beams and their evolution, 24th Central European Workshop of Quantum Optics, Univ. Lyngby, Copenhagen, 24. 6. - 2. 7. 2017, poster.
- J. Peřina Jr., I. Arkhipov, V. Michálek, O. Haderka: Experimental generation of higher-order nonclassical state, 24th Central European Workshop of Quantum Optics, Univ. Lyngby, Copenhagen, 24. 6. - 2. 7. 2017, poster.
- J. Peřina Jr., I. Arkhipov, V. Michálek, O. Haderka: Experimental generation of higher-order nonclassical states, 15th International Conference on Squeezed States and Uncertainty Relations, Jeju, South Korea, 24. 8. - 3. 9. 2017.
- J. Peřina Jr., O. Haderka, A. Allevi, M. Bondani: Intense twin beams - their dynamics and spatio-spectral coherence, 15th International Conference on Squeezed States and Uncertainty Relations, Jeju, South Korea, 24. 8. - 3. 9. 2017, poster.
- J. Peřina Jr., O. Haderka, A. Allevi, M. Bondani: Coherence and dimensionality of intense twin beams, 20th Slovak-Czech-Polish Optical Conference, Jasná (Slovakia) 2016 – invited lecture.
- R. Machulka, O. Haderka, J. Peřina Jr., A. Allevi, M. Bondani: Spatial and spectral coherence in propagating high-intensity twin beams, 20th Slovak-Czech-Polish Optical Conference, Jasná (Slovakia) 2016.
- M. Bondani, A. Allevi, J. Soubusta, O. Haderka, presented at the Conference on Education and Training in Optics and Photonics (ETOP), Bordeaux, France, 2015.
- J. Peřina Jr., O. Haderka, V. Michálek: Sub-Poissonian-light generation using twin beams, 19th Polish-Slovak-Czech Optical Conference on Wave and Quantum Aspects of Contemporary Optics, Wojanow (Poland) 2014 (přednáška).
- J. Peřina Jr., O. Haderka, M. V. Michálek: Sub-Poissonian-light generation by postselection from twin beams, 20th Central European Workshop on Quantum Optics, Brussels (Belgium) 2014 (poster).
- M. Hamar, O. Haderka, V. Michálek, J. Peřina jr., A. Pathak: Neklasický charakter parametrickej fluorescence a jeho využitie v metrologii, Optický seminár SAV, 13-15.3 2013, Kongresové centrum Smolenice SAV, Smolenice, SR.
- M. Lamperti, A. Allevi, M. Bondani, R. Machulka, O. Haderka a J. Peřina ml.: Detecting fluorescence emission in beta-Barium borate crystals, 6th Italian Quantum Information Science Conference, Como (Italy) 2013.
- R. Machulka, J. Svozilík, J. Soubusta, J. Peřina Jr., O. Haderka: The influence of waveguide parameters on the second-harmonic generation in PP-KTP waveguide, Photons beyond qubits, (2th IWIU), Olomouc (Česká republika) 2013. – přednáška



- R. Machulka, J. Svozilík, J. Soubusta, J. Peřina, ml. a O. Haderka: The influence of waveguide parameters on second-harmonic generation in PP-KTP, 13th International Conference on Squeezed States and Uncertainty Relations, Norimberk (Germany) 2013, (poster).
- R. Machulka, J. Svozilík, J. Soubusta, J. Peřina, ml. a O. Haderka: The influence of waveguide parameters on second-harmonic generation in PP-KTP, 6th Italian Quantum Information Science Conference, Como (Italy) 2013., (poster).
- M. Lamperti, A. Allevi, M. Bondani, R. Machulka, O. Haderka a J. Peřina ml.: Detecting fluorescence emission in beta-Barium borate crystals, 6th Italian Quantum Information Science Conference, Como (Italy) 2013.
- J. Soubusta, R. Machulka, J. Svozilík, J. Peřina Jr., O. Haderka: The influence of waveguide parameters on the second-harmonic generation in PP-KTP, Central European Workshop on Quantum Optics (CEWQO 2013), Stockholm (Sweden) 2013 – poster.
- J. Peřina Jr., O. Haderka, V. Michálek: Sub-Poissonian-light generation by postselection from twin beams, The 3rd Poznań Symposium on Quantum Engineering, Information, and Nonlinear Optics, Poznań (Polsko) - pozvaná přednáška.
- J. Peřina Jr., O. Haderka, V. Michálek: Sub-Poissonian-light generation by postselection from twin beams, 13th International Conference on Squeezed States and Uncertainty Relations, Norimberk (Germany) 2013
- R. Machulka, J. Svozilík, J. Soubusta, J. Peřina Jr., O. Haderka: The influence of waveguide parameters on the second-harmonic generation in PP-KTP waveguide, Photons beyond qubits, (2th IWIU), Olomouc (Česká republika) 2013 - přednáška
- O. Haderka, Experimenty s jednotlivými fotony, Workshop „Význam experimentu a praktických úloh ve vzdělávání“ Valašské Meziříčí, 23.-24.3.2012 – zvaná přednáška.
- O. Haderka, Kvantová kryptografie, 2. workshop Aplikovaná matematika v rámci projektu AMathNet, Ostravice, 31.1.-3.2.2012 – zvaná přednáška.
- J. Machulka, J. Svozilík, J. Soubusta, O. Haderka: Nonlinear Processes in Periodically Polled KTP Waveguides, International Summer School on Physics at Nanoscale, červen 2011, Devět skal, ČR – poster.
- O. Haderka, Detektory jednotlivých fotonů, přednáška v rámci projektu CZ.1.07/2.3.00/09.0042, Meopta - Optika, s.r.o., Přerov, 6.10.2010.
- O. Haderka, Detectors of single photons (...on the road to nano), II. letní škola „NANOSYSTÉMY BIO-EKO-TECH“, 16.-18.9.2010, Malenovice.
- O. Haderka, An overview of single-photon sensitive detection techniques, Università degli studi dell'Insubria, Como, Itálie, hostující přednáška v rámci výuky, Erasmus, 2010.
- O. Haderka, Characterization of twin beams using iCCD cameras, Università degli studi dell'Insubria, Como, Itálie, hostující přednáška v rámci výuky, Erasmus, 2010.
- O. Haderka, Application of high-sensitivity cameras in short-exposure astrophotography, Università degli studi dell'Insubria, Como, Itálie, hostující přednáška v rámci výuky, Erasmus, 2010.
- O. Haderka, J. Peřina Jr., M. Hamar, V. Michálek, Detection of single photons, 17th Slovak-Czech-Polish optical conference on wave and quantum aspects of contemporary optics, Hotel Sorea Máj, Liptovský Ján, Slovenská republika, 6.- 10. 9. 2010, zvaná přednáška. Photon-number resolving detectors, Proc. SPIE, Vol. 7746, 774603 (2010).
- M. Hamar, J. Peřina Jr., O. Haderka, V. Michálek, A. Černocho, J. Soubusta, Correlations in far field of photons emitted by parametric fluorescence, 17th Slovak-Czech-Polish optical conference on wave and quantum aspects of contemporary optics, Hotel Sorea Máj, Liptovský Ján, Slovenská republika, 6.- 10. 9. 2010. Correlations in far field of photons emitted by parametric fluorescence, Proc. SPIE 7746, 77460T (2010).
- J. Peřina Jr., J. Peřina, O. Haderka, M. Hamar, J. Křepelka, V. Michálek, M. Bondani, A. Allevi, A. Andreoni, Photon-number statistics of twin beams and their spatial properties, 5th International Workshop Advances in Foundations of Quantum Mechanics and Quantum Information with Atoms and Photons, Torino (Italy) 2010, zvaná přednáška.
- J. Peřina Jr., J. Peřina, O. Haderka, J. Křepelka, M. Hamar, V. Michálek, M. Bondani, A. Allevi, A. Andreoni: Photon-number statistics in twin beams - theory and experiment, Univezita v Zielona Gora, Polsko, 9/2/2010.
- J. Peřina Jr., J. Peřina, O. Haderka, J. Křepelka, M. Hamar, V. Michálek, M. Bondani, A. Allevi, A. Andreoni: Quantum properties of twin beams, Schrodinger symposium, Prague 2009, Czech Republic.
- J. Peřina Jr., J. Peřina, O. Haderka, J. Křepelka, M. Hamar, V. Michálek, M. Bondani, A. Allevi, A. Andreoni: Photon-number statistics of twin beams and their non-classical properties, Conference Optics and Optoelectronics, Prague 2009, Czech Republic – zvaná přednáška.
- R. Machulka, J. Svozilík, J. Soubusta, O. Haderka, Nonlinear Processes in Periodically Polled KTP Waveguides, QIPC 2009, Řím, září 2009, poster.
- J. Peřina Jr., J. Peřina, O. Haderka, J. Křepelka, M. Hamar, V. Michálek, M. Bondani, A. Allevi and A. Andreoni, Photon-number statistics of twin beams and their non-classical properties, 11th International Conference on Squeezed States and Uncertainty Relations, Olomouc, June 22-26, 2009, poster.
- M. Hamar, A. Černocho, J. Soubusta, V. Michálek, J. Peřina Jr. and O. Haderka, Measurement of angle uncertainty of momentum correlations and spectral characteristics of the photons generated in parametric fluorescence, 11th International Conference on Squeezed States and Uncertainty Relations, Olomouc, June 22-26, 2009, poster.
- J. Peřina Jr., J. Peřina, O. Haderka, J. Křepelka, M. Hamar, V. Michálek, M. Bondani, A. Allevi, A. Andreoni: Photon-number statistics of twin beams and their non-classical properties, 16th Central European Workshop on Quantum Optics, Turku 2009, Finland.
- J. Peřina Jr., J. Peřina, O. Haderka, J. Křepelka, M. Hamar, V. Michálek, M. Bondani, A. Allevi, A. Andreoni: Photocount measurements as a tool for investigation of non-classical properties of twin beams, Proceedings of the 16th Polish-Slovak-Czech Conference on Wave and Quantum Aspects of Contemporary Optics, Polonica, Polsko, 8-12. Sept. 2008, Proceedings of SPIE - The International Society for Optical Engineering 7141, art. no. 714104.
- O. Haderka, J. Peřina Jr., M. Hamar, V. Michálek, Metody čítání fotonů, Optika a jemná mechanika 2008, Přerov, 24.-26.9. 2008.

- M. Hamar, O. Haderka, J. Peřina Jr., Position and momentum of entangled photons generated by parametric fluorescence, Trojkrálova konferencia, Stretnutie slovenských, českých a spriatelých fyzikov, Banská Bystrica, 4. 6. 2008.
- M. Hamar, A. Černocho, J. Soubusta, V. Michálek, J. Peřina Jr., O. Haderka, Measurement of angle uncertainty of momentum correlations and spectral characteristics of the photons generated in parametric fluorescence, Advances in Foundations of Quantum Mechanics and Quantum Information with atoms and photons, 4th workshop ad memoriam of Carlo Novero, Torino (Itálie) 19.-23.5.2008, poster
- M. Hamar, A. Černocho, J. Soubusta, V. Michálek, J. Peřina Jr., O. Haderka, Measurement of angle uncertainty of momentum correlations and spectral characteristics of the photons generated in parametric fluorescence, Proceedings of the 16th Polish-Slovak-Czech Optical Conference on Wave and Quantum Aspects of Contemporary Optics, Polanica, Polsko, 8-12. Sept. 2008.
- J. Peřina Jr., O. Haderka, M. Hamar, J. Peřina, V. Michálek: Photon-Number Entanglement in Twin Beams Generated in Spontaneous Parametric Down-Conversion, Proc. of International Conference on Quantum Information, Rochester 2007, USA.
- J. Peřina Jr., O. Haderka, C. Sibilía, M. Bertolotti, M. Scalora: Periodically corrugated nonlinear planar waveguide as a source of squeezed light, Proc. of the conference Optics and Optoelectronics, Prague 2007, CR, Proceedings of SPIE - The International Society for Optical Engineering 6582 , art. no. 65820L.
- O. Haderka, Multiplexing detectors with photon-number resolution, seminar of the Department of Mathematics and Physics, Università dell'Insubria, Como (Italy), July 10–14, 2006.
- J. Peřina Jr., O. Haderka, M. Hamar, J. Peřina: Direct measurement of photon-number statistics and spatial correlations of photon pairs, seminar of the Department of Mathematics and Physics, Università dell'Insubria, Como (Italy), July 10–14, 2006.
- J. Peřina Jr., Ondřej Haderka, Martin Hamar, Jan Peřina: Direct measurement of photon-number statistics and spatial correlations of photon pairs, 3rd International Workshop Advances in Foundations of Quantum Mechanics and Quantum Information with atoms and photons, Torino (Italy), May 2-5, 2006, invited lecture.
- M. Hamar, O. Haderka, J. Peřina jr., The spatial distribution of the mode generated by the parametric fluorescence, XVth Czech-Polish-Slovak Optical Conference - Wave and Quantum Aspects of Contemporary Optics, Liberec (Czech Republic), September 11–16, 2006.
- O. Haderka, Multiplexing detectors with photon-number resolution, invited lecture at the seminar of the Institute of Experimental Physics, University of Vienna, January 23, 2006.
- O. Haderka, J. Peřina, Jr., M. Hamar, Direct measurement of photon number statistics and spatial correlations of photon twins, Workshop on Classical and Quantum Interference, October 20-21, 2005, Olomouc, Czech Republic.
- O. Haderka, J. Peřina, Jr., M. Hamar, Direct measurement of photon-number statistics and spatial correlations of photon twins, 9th International Conference on Squeezed States and Uncertainty Relations, Besançon, France, May 2-6, 2005, oral contribution.
- M. Hamar, J. Peřina, Jr., O. Haderka: Intensified CCD camera - a new tool of research of photon pairs generated in spontaneous parametric downconversion, XV. konference slovenských a českých fyziků, Košice 2005.
- J. Soubusta, J. Peřina, Jr., O. Haderka, M. Hendrych, M. Dušek: Experimental tests of energy and time entanglement, 11th Central-European Workshop on Quantum Optics, Trieste 2004, Acta Physica Hungarica, Series B: Quantum Electronics 23 (3-4) , pp. 143-150.
- M. Hamar, J. Peřina, Jr., O. Haderka: Photon statistics and spatial properties of photon pairs generated by spontaneous parametric downconversion, 14th Slovak-Czech-Poland Optical Conf., Nitra 2004, Proceedings of SPIE - The International Society for Optical Engineering 5945 , art. no. 594501 , pp. 1-7.
- J. Soubusta, O. Haderka, M. Hendrych, P. Pavlíček, Experimental realization of Quantum random number generator, Proc. SPIE Vol. 5259, p. 7-13, 13th Polish-Czech-Slovak Conference on Wave and Quantum Aspects of Contemporary Optics, Krzyżowa, Poland, September 2002; Jerzy Nowak, Marek Zajac, Jan Masajada; Eds. (2003)
- M. Hamar, O. Haderka, J. Peřina jr., J. Řeháček, Z. Hradil, Application of the multi-photon-resolving detector in quantum optics, 10th Central-European Workshop on Quantum Optics, Warnemünde (April 4-7, 2002), poster.
- J. Peřina Jr., O. Haderka, J. Soubusta: Quantum cryptography based on realistic "single-photon" source, International Conference on Quantum Information, Rochester June 10-13, 2001, published on CD-ROM "ICQI Conf. Proceedings", N. P. Bigelow, J. H. Eberly, C. R. Stroud, Jr., I. A. Walmsley eds.
- O. Haderka, J. Peřina jr., Approximation of single-photon states by postselection from correlated pairs, refereed paper, NATO Advanced Research Workshop on Decoherence and its Implications in Quantum Computation and Information Transfer, June 2000, Mykonos, Greece, proc. ed. by A. Gonis and P.E.A. Turchi, NATO Science Series, Series III: Computer and System Sciences, vol. 182, 186-196, IOS Press, Amsterdam (2001).
- J. Řeháček, Z. Hradil, M. Dušek, O. Haderka, M. Hendrych: Phase estimation in quantum optics, XII-th Czech-Slovak-Polish Optical Conference, Velké Losiny, Czech Republic, September 2000, Proc. SPIE, vol. 4356, 96-101.
- O. Haderka, J. Peřina, Jr., Photon source for quantum cryptography using postselection from entangled quantum states, XII-th Czech-Slovak-Polish Optical Conference, Velké Losiny, Czech Republic, September 2000, Proc. SPIE, vol. 4356, 61-69.
- J. Soubusta, O. Haderka, M. Hendrych, Quantum random number generator, XII-th Czech-Slovak-Polish Optical Conference, Velké Losiny, Czech Republic, September 2000, Proc. SPIE, vol. 4356, 54-60.
- O. Haderka, J. Soubusta, M. Hendrych, Kvantový generátor náhodných bitů (Quantum generator of random bits), Proc. Conf. Optical communications 2000, Prague, November 2000, Tech-Market, Prague (2000), pp. 123-127.
- O. Haderka, M. Hendrych, M. Dušek, Kvantová kryptografie (komunikace pomocí jednotlivých fotonů - konec odposlechu?) [Quantum cryptography (communication using single photons – the end of eavesdropping?)], invited paper, Proc. Conf. Optical communications '99, Prague, November 1999, 52-62, Tech-Market, Prague (1999).
- O. Haderka, M. Hendrych, M. Dušek, Experimental implementation of quantum cryptography, 11<sup>th</sup> Slovak-Czech Polish Optical Conference (invited paper), Stará Lesná, Slovakia, September 1998, Proc. SPIE vol. 3820, 88-93 (1999).
- O. Haderka, Kvantová kryptografie (Quantum cryptography), Proc. 12<sup>th</sup> Conf. of Czech and Slovak Physicists, Ostrava, 1996, 319-322.

- O. Haderka, J. Bajer, J. Peřina, Global tendencies to nonclassical behavior in degenerate parametric processes, contributed paper presented at the Seminar on “Fundamentals of Quantum Optics IV”, Kühtai, Austria, January 12-17, 1997. Book of Abstracts p. P36.
- M. Dušek, O. Haderka, M. Hendrych, Physical aspects of optical implementation of quantum cryptography, Proc. 1<sup>st</sup> Int. Conf. on Theory and Appl. of Cryptology, Pragocrypt, Prague, 234-241 (1996).

## Applied results

- O. Haderka, V. Urbášek: Mobilní napájecí jednotka pro astronomickou sestavu (Mobile power unit for astronomical system), functional sample, FV30/SLO/2012
- A. Černoch, O. Haderka: Osmikanálový detektor s jednomodovým vláknem (Eight-channel detector using single-mode fiber), functional sample, FV6/SLO/2009.
- A. Černoch, O. Haderka: Osmikanálový MM vláknový detektor (Eight-channel multimode fiber detector), functional sample, FV7/SLO/2009.
- O. Haderka, M. Hendrych, J. Soubusta, A. Černoch: Vlákenný interferometr pro nízkofotonové aplikace s vysokou vizibilitou (High visibility fiber interferometer for low-photon-number applications), FV8/SLO/2009.
- O. Haderka, M. Hamar, V. Michálek, J. Peřina ml.: Detekční systém pro prostorové korelace (A system for detection of spatial correlations), functional sample, FV9/SLO/2009.
- O. Haderka, M. Ježek, V. Michálek, V. Urbášek: Homodynní detektor pro kvantovou optiku z komerčně dostupných komponent, functional sample (Homodyne detector for quantum optics from commercially available components), FV10/SLO/2009.
- O. Haderka, J. Peřina ml., M. Hamar: Smyčkový detektor s rozlišením v počtu fotonů (Fiber-loop detector with photon number resolution), functional sample, FV11/SLO/2009.
- J. Soubusta, A. Černoch, O. Haderka, P. Pavlíček: Generátor náhodných čísel (Random-number generator), functional sample, FV13/SLO/2009.
- R. Machulka, J. Soubusta, O. Haderka: Machův-Zehnderův interferometr s kontrolou fáze pomocí vláknově optického stretcheru, functional sample (Mach-Zehnder interferometer with phase-control using optical fiber stretcher), FV19/SLO/2009.
- V. Urbášek, O. Haderka, V. Michálek: Pulsní homodynní detektor s šířkou pásma 1 MHz, functional sample (Pulsed homodyne detector with 1 MHz bandwidth), FV14/SLO/2009.
- V. Urbášek, O. Haderka: Přesné převodníky proud - napětí pro testování a výběr PIN fotodiod (Precise current-voltage converters for testing and selection of photodiodes), functional sample, FV15/SLO/2009.
- V. Urbášek, J. Soubusta, A. Černoch, O. Haderka : Dvojitá rychlá čtyřvstupová logická jednotka (Fast doubled four-input logic unit), functional sample, FV16/SLO/2009.
- V. Urbášek, O. Haderka, J. Soubusta: Výkonový D/A převodník se sériovým rozhraním pro napájení polarizačních kontrolerů, functional sample (High-power D/A converter with serial interface for powering of polarization controllers), FV17/SLO/2009.
- V. Urbášek, O. Haderka, V. Michálek: Převodník a buffer výstupů 16-bitové 8-kanálové analogové karty PCI-1723 (Converter and buffer of the 16-bit 8-channel analog card PCI-1723), functional sample, FV18/SLO/2009.
- V. Urbášek, O. Haderka, J. Soubusta: Modul převodníků signálů TTL na FAST NIM ve standardním NIM bin modulu (A NIM module containing TTL/FAST NIM converter), functional sample, FV20/SLO/2009.
- V. Urbášek, O. Haderka: Rotační difuzor pro laserové svazky (Rotational diffuser for laser beams), functional sample, FV21/SLO/2009.