

## d) Seznam vědeckých prací (Scopus) ke dni 4.8.2023

Ing. Pavel Psota, Ph.D.

<https://www.scopus.com/authid/detail.uri?authorId=51864637200>



- V celém profesním období 2011-2023 jsem autorem 86 dokumentů (31xJ, 55xD), 344 citací
- V monitorovaném období 2019-2023 jsem autorem 33 dokumentů (22xJ, 11xD), 225 citací (viz. příloha f - Podklady pro kvantitativní hodnocení)

1. Y. Arezki, F. Lepretre, P. Psota, R. Su, V. Heikkinen, X. Zhang, N. Cai, Y. Bitou, R. Leach, V. Lédl, N. Anwer, C. Mehdi-Souzani, and H. Nouira, "Material standards design for minimum zone fitting of freeform optics C3 - European Society for Precision Engineering and Nanotechnology, Conference Proceedings - 19th International Conference and Exhibition, EUSPEN 2019," (2019), pp. 264-267.
2. G. Cubreli, P. Psota, P. Dančová, V. Lédl, and T. Vít, "Digital holographic interferometry for the measurement of symmetrical temperature fields in liquids," Photonics 8 (2021).
3. P. Dancová, P. Psota, and T. Vit, "Measurement of a temperature field generated by a synthetic jet actuator using digital holographic interferometry," Actuators 8 (2019).
4. P. Dancová, T. Vít, Z. Trávníček, V. Lédl, and P. Psota, "Methods of measurement of the temperature field in pulsatile fluid C3 - Proceedings of the International Symposium on Turbulence, Heat and Mass Transfer," (2012), pp. 1455-1463.
5. R. Doleček, V. Kopecký, P. Psota, and V. Lédl, "Digital holographic setup for measurement of asymmetric temperature field and tomographic reconstruction C3 - EPJ Web of Conferences," (2013).
6. R. Doleček, P. Psota, V. Lédl, and T. Vít, "Heat and mass transfer measurement using method of digital holographic tomography C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2016).

7. R. Doleček, P. Psota, V. Lédl, T. Vít, P. Dančová, and V. Kopecký, "Comparison of digital holographic interferometry and constant temperature anemometry for measurement of temperature field in fluid C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2015).
8. R. Doleček, P. Psota, V. Lédl, T. Vít, and V. Kopecký, "Comparison of holographic setups used in heat and mass transfer measurement C3 - EPJ Web of Conferences," (2014).
9. R. Doleček, P. Psota, V. Lédl, T. Vít, J. Václavík, and V. Kopecký, "General temperature field measurement by digital holography," Applied Optics 52, A319-A325 (2013).
10. J. Erhart, P. Púlpán, R. Doleček, P. Psota, and V. Lédl, "Disc piezoelectric ceramic transformers C3 - Proceedings of 2012 21st IEEE Int. Symp. on Applications of Ferroelectrics held jointly with 11th IEEE European Conference on the Applications of Polar Dielectrics and IEEE PFM, ISAF/ECAPD/PFM 2012," (2012).
11. J. Erhart, P. Púlpán, R. Doleček, P. Psota, and V. Lédl, "Disc piezoelectric ceramic transformers," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control 60, 1612-1618 (2013).
12. F. Kaván, and P. Psota, "Frequency sweeping digital holography in Fourier arrangement for topography measurement of complex surfaces C3 - Optics InfoBase Conference Papers," (2019).
13. F. Kaván, and P. Psota, "Frequency sweeping digital holography in Fourier arrangement for topography measurement of complex surfaces C3 - Proceedings Digital Holography and Three-Dimensional Imaging 2019," (2019).
14. F. Kaván, P. Psota, V. Lédl, and O. Matoušek, "Multiple wavelength digital holography for freeform shape measurement and lens alignment," Applied Optics 62, D138-D145 (2023).
15. F. Kaván, P. Psota, M. Mach, and M. Stašík, "Measurement Scheme for Convex Freeform Objects using Multiwavelength Digital Holography C3 - Optics InfoBase Conference Papers," (2022).
16. F. Kaván, P. Psota, M. Mach, M. Stašík, and V. Lédl, "Parameter optimization of frequency sweeping digital holography for the measurement of ground optical surfaces," Applied Optics 60, 8368-8374 (2021).
17. K. Kolacek, J. Schmidt, J. Straus, O. Frolov, V. Prukner, R. Melich, and P. Psota, "Spontaneous and artificial direct nanostructuring of solid surface by extreme ultraviolet laser with nanosecond pulses," Laser and Particle Beams 34, 11-22 (2016).
18. J. Kredba, and P. Psota, "Positioning system and lattice design for subaperture stitching interferometry C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2016).
19. J. Kredba, P. Psota, M. Stašík, V. Lédl, L. Veselý, and J. Nečásek, "Absolute interferometry for fast and precise radius measurement," Optics Express 29, 12531-12542 (2021).
20. V. Lédl, I. Fortmeier, P. Psota, M. Schulz, O. Matoušek, and R. Doleček, "Influence of mounting on the optical surface figure in optical reference surfaces," Journal of Instrumentation 15 (2020).
21. V. Lédl, P. Psota, R. Doleček, J. Erhart, and V. Kopecký, "A digital holographic method for the measurement of piezoelectric transformer vibrations C3 - 2011 International Symposium on

Applications of Ferroelectrics and 2011 International Symposium on Piezoresponse Force Microscopy and Nanoscale Phenomena in Polar Materials, ISAF/PFM 2011," (2011).

22. V. Lédl, P. Psota, R. Doleček, and T. Vít, "Digital holographic setups for phase object measurements in micro and macro scale C3 - EPJ Web of Conferences," (2015).
23. V. Lédl, P. Psota, F. Kaván, O. Matoušek, and P. Mokrý, "Surface topography measurement by frequency sweeping digital holography," Applied Optics 56, 7808-7814 (2017).
24. V. Lédl, P. Psota, T. Vít, and R. Doleček, "Digital holographic setup for measurement of fast developing phenomenon in wide area C3 - Fringe 2013 - 7th International Workshop on Advanced Optical Imaging and Metrology," (2014), pp. 577-580.
25. V. Lédl, P. Psota, and P. Vojtíšek, "Sensitivity vector map retrieval in digital holography used for shape measurement C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2016).
26. V. Lédl, P. Psota, P. Vojtíšek, R. Doleček, and P. Mokrý, "Holographic contouring and its limitations in nearly specularly reflecting surface measurement C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2015).
27. V. Lédl, P. Psota, P. Vojtíšek, R. Doleček, P. Mokrý, and M. Dlask, "Challenges in holographic measurement of aspheric and freeform optical components shape C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2015).
28. V. Lédl, T. Vít, R. Doleček, and P. Psota, "Digital holographic interferometry used for identification of 2D temperature field C3 - EPJ Web of Conferences," (2012).
29. M. Mach, F. Kaván, P. Psota, P. Mokrý, and V. Lédl, "Digital holographic tomography for 3D imaging of ferroelectric single-crystal domain walls C3 - Optics InfoBase Conference Papers," (2019).
30. M. Mach, F. Kaván, P. Psota, P. Mokrý, and V. Lédl, "Digital holographic tomography for 3D imaging of ferroelectric single-crystal domain walls C3 - Proceedings Digital Holography and Three-Dimensional Imaging 2019," (2019).
31. M. Mach, P. Psota, K. Žídek, and P. Mokrý, "Compact lensless Fizeau holographic interferometry for imaging domain patterns in ferroelectric single crystals," Applied Optics 62, 2522-2530 (2023).
32. M. Mach, P. Psota, K. Žídek, and P. Mokrý, "On-chip digital holographic interferometry for measuring wavefront deformation in transparent samples," Optics Express 31, 17185-17200 (2023).
33. M. Mach, M. Stašík, F. Kaván, P. Mokrý, V. Lédl, and P. Psota, "Subaperture stitching digital holographic microscopy for precise wear volume measurement in tribology," Applied Optics 62, 2137-2144 (2023).
34. O. Matoušek, V. Lédl, P. Psota, and P. Vojtíšek, "Methods for refractive-index homogeneity calculation using Fourier-transform phase-shifting interferometry C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2016).
35. R. Melich, M. Matela, F. Prochaska, P. Psota, O. Matousek, and D. Tomka, "Design and realization of an aspherical doublet C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2015).

36. R. Melich, P. Psota, V. Léd, and J. Václavík, "Irregular surfaces - Measurements and ZEMAX simulations C3 - EPJ Web of Conferences," (2013).
37. P. Mokrý, P. Psota, K. Steiger, J. Václavík, R. Doleček, V. Lédl, and M. Šulc, "Noise suppression in curved glass shells using macro-fiber-composite actuators studied by the means of digital holography and acoustic measurements," AIP Advances 5 (2015).
38. P. Mokrý, P. Psota, K. Steiger, J. Václavík, R. Doleček, D. Vápenka, and V. Lédl, "Ferroelectric domain pattern in barium titanate single crystals studied by means of digital holographic microscopy," Journal of Physics D: Applied Physics 49 (2016).
39. P. Mokrý, P. Psota, K. Steiger, J. Václavík, D. Vápenka, R. Doleček, P. Vojtěšek, J. Sládek, and V. Lédl, "Digital holographic tomography method for 3D observation of domain patterns in ferroelectric single crystals C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2016).
40. P. Mokrý, P. Psota, J. Václavík, J. Sládek, K. Steiger, and V. Lédl, "Three-dimensional imaging of ferroelectric domain structure in periodically poled lithium niobate using digital holographic tomography," Applied Physics Letters 112 (2018).
41. P. Mokry, K. Steiger, P. Psota, R. Dolecek, P. Vojtisek, and V. Ledl, "Digital holographic interferometry as an experimental instrumentation for measurements of macroscopic properties of polydomain ferroelectrics C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2015).
42. P. Mokrý, K. Steiger, J. Václavík, P. Psota, R. Doleček, P. Márton, M. Kodejška, and M. Černík, "Noise shielding using active acoustic metamaterials with electronically tunable acoustic impedance C3 - INTERNOISE 2014 - 43rd International Congress on Noise Control Engineering: Improving the World Through Noise Control," (2014).
43. P. Mokrý, J. Václavík, J. Necásek, P. Psota, K. Steiger, and D. Vápenka, "Adaptive acoustic metasurfaces for the noise shielding C3 - 24th International Congress on Sound and Vibration, ICSV 2017," (2017).
44. K. Nováková, P. Psota, R. Doleček, V. Lédl, P. Mokrý, J. Václavík, P. Márton, and M. Černík, "Planar acoustic metamaterials with the active control of acoustic impedance using a piezoelectric composite actuator C3 - 2013 Joint IEEE International Symposium on Applications of Ferroelectric and Workshop on Piezoresponse Force Microscopy, ISAF/PFM 2013," (2013), pp. 317-320.
45. P. Pavel, L. Vít, D. Roman, V. Jan, and S. Miroslav, "Comparison of digital holographic method for very small amplitudes measurement with single point laser interferometer and laser doppler vibrometer C3 - Digital Holography and Three-Dimensional Imaging, DH 2012," (2012).
46. M. Peca, P. Psota, P. Vojtíšek, and V. Lédl, "Absolute and relative surface profile interferometry using multiple frequency-scanned lasers C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2016).
47. P. Psota, G. Çubreli, J. Hála, D. Šimurda, P. Šidlof, J. Kredba, M. Stašík, V. Lédl, M. Jiránek, M. Luxa, and J. Lepicovsky, "Characterization of supersonic compressible fluid flow using high-speed interferometry," Sensors 21 (2021).
48. P. Psota, G. Cubreli, J. Kredba, M. Stašík, and V. Lédl, "TWO WAVELENGTH DIGITAL HOLOGRAPHIC INTERFEROMETRY FOR INVESTIGATION OF DYNAMIC PROCESSES IN FLUID

MECHANICS C3 - Proceedings of the Thermal and Fluids Engineering Summer Conference," (2021), pp. 1429-1435.

49. P. Psota, G. Çubreli, D. Šimurda, P. Šidlof, J. Kredba, M. Stašík, and V. Lédl, "Noise-resistant two-wavelength interferometry for single-shot measurement of high-gradient flows," *Optics and Lasers in Engineering* 164 (2023).
50. P. Psota, P. Dančová, G. Cubreli, V. Lédl, T. Vít, R. Doleček, and O. Matoušek, "Development and application of spatial carrier interferometry for whole field real-time investigation of temperatures in liquid media," *International Journal of Thermal Sciences* 145 (2019).
51. P. Psota, R. Doleček, V. Lédl, and T. Vít, "Dynamic interferometric measurement with extended unambiguity range in flow measurement C3 - EPJ Web of Conferences," (2018).
52. P. Psota, R. Doleček, V. Lédl, P. Vojtíšek, T. Vít, and O. Matoušek, "Tomographical approach in 3-D temperature distribution measurement by digital holography C3 - XXI IMEKO World Congress "Measurement in Research and Industry"," (2015).
53. P. Psota, R. Doleček, V. Lédl, T. Vít, P. Mokrý, and P. Dančová, "Validation of digital holographic tomography in flow measurement C3 - EPJ Web of Conferences," (2017).
54. P. Psota, V. Kopecký, V. Lédl, and R. Doleček, "Digital holographic method for piezoelectric transformers vibration analysis C3 - EPJ Web of Conferences," (2013).
55. P. Psota, J. Kredba, M. Stašík, G. Cubreli, V. Lédl, and D. Šimurda, "Two-wavelength interferometry for measurement of transonic airflow in a compressor blade cascade C3 - Journal of Physics: Conference Series," (2023).
56. P. Psota, J. Kredba, M. Stašík, J. Nečásek, O. Matoušek, and V. Lédl, "Absolute wavelength scanning interferometry for measuring the thickness of optical elements," *Optics Express* 31, 3565-3578 (2023).
57. P. Psota, V. Lédl, and R. Doleček, "High dynamic range digital holographic method for very small amplitude measurement C3 - Fringe 2013 - 7th International Workshop on Advanced Optical Imaging and Metrology," (2014), pp. 635-640.
58. P. Psota, V. Lédl, R. Doleček, J. Erhart, and V. Kopecký, "Measurement of piezoelectric transformer vibrations by digital holography," *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control* 59, 1962-1968 (2012).
59. P. Psota, V. Lédl, R. Doleček, P. Mokrý, and V. Kopecký, "Measurement of vibration mode structure for adaptive vibration suppression system by digital holography C3 - 2013 Joint IEEE International Symposium on Applications of Ferroelectric and Workshop on Piezoresponse Force Microscopy, ISAF/PFM 2013," (2013), pp. 214-217.
60. P. Psota, V. Lédl, R. Doleček, P. Mokrý, P. Vojtíšek, and J. Václavík, "Comprehensive time average digital holographic vibrometry," *Optical Engineering* 55 (2016).
61. P. Psota, V. Lédl, R. Doleček, J. Václavík, and V. Kopecký, "Improved holographic method for vibration amplitude measurement from nano to microscale C3 - AIP Conference Proceedings," (2014), pp. 228-236.

62. P. Psota, V. Lédl, F. Kaván, O. Matoušek, and R. Dolecek, "Large displacement and deformation measurement by frequency sweeping digital holography C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2017).
63. P. Psota, V. Lédl, F. Kaván, P. Mokrý, and O. Matoušek, "Surface profilometry by digital holography C3 - IEEE International Conference on Emerging Technologies and Factory Automation, ETFA," (2017), pp. 1-5.
64. P. Psota, V. Lédl, O. Matoušek, R. Doleček, and J. Kredba, "Pixel-wise Amplitude Distribution Evaluation in Time Average Digital Holography C3 - Journal of Physics: Conference Series," (2018).
65. P. Psota, V. Lédl, P. Vojtěšek, R. Doleček, and V. Kopecký, "3D form inspection of grinded optical surfaces by digital holography C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2015).
66. P. Psota, V. Lédl, P. Vojtěšek, and O. Matoušek, "Robust retrieval of optical surfaces phase maps in sub-Nyquist multiwavelength interferometry C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2016).
67. P. Psota, V. Lédl, P. Vojtěšek, J. Václavík, R. Doleček, and P. Mokrý, "Advanced time average holographic method for measurement in extensive vibration amplitude range with quantitative single-pixel analysis C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2015).
68. P. Psota, V. Lédl, P. Vojtěšek, and T. Vít, "Multi-wavelength digital holography for shape measurement of grinded surfaces with ultimate accuracy C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2016).
69. P. Psota, P. Mokrý, V. Lédl, M. Stašík, O. Matoušek, and J. Kredba, "Absolute and pixel-wise measurements of vibration amplitudes using time-averaged digital holography," Optics and Lasers in Engineering 121, 236-245 (2019).
70. P. Psota, P. Mokrý, V. Lédl, and P. Vojtěšek, "Image plane digital holographic microscope for the inspection of ferroelectric single crystals," Optical Engineering 55 (2016).
71. P. Psota, M. Stašík, J. Kredba, V. Lédl, and J. Nečásek, "Measurement of radius of curvature directly in the interferometer confocal position," Applied Optics 60, 4485-4490 (2021).
72. P. Psota, H. Tang, K. Pooladvand, C. Furlong, J. J. Rosowski, J. T. Cheng, and A. V. I. T. Lédl, "Multiple angle digital holography for the shape measurement of the unpainted tympanic membrane," Optics Express 28, 24614-24628 (2020).
73. P. Psota, H. Tang, K. Pooladvand, V. Lédl, C. Furlong, J. J. Rosowski, and J. T. Cheng, "Investigation of tympanic membrane shape using digital holography C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2019).
74. E. Renotte, A. Alia, A. Bemporad, J. Bernier, C. Bramanti, S. Buckley, G. Capobianco, I. Cernica, V. Dániel, R. Darakchiev, M. Darmetko, A. Debaize, F. Denis, R. Desselle, L. De Vos, A. Dinescu, K. Fleury-Frenette, M. Focardi, A. Fumel, D. Galano, C. Galy, J. M. Gillis, T. Górska, E. Graas, R. Graczyk, K. Grochowski, J. P. A. Halain, A. Hermans, R. Howard, C. Jackson, E. Janssen, H. Kasprzyk, J. Kosiec, S. Koutchmy, J. Kovaiinová, N. Kranitis, M. Kurowski, M. Ladno, P. Lamy, F. Landini, R. Lapaék, V. Lédl, S. Liebecq, D. Loreggia, B. McGarvey, G. Massone, R. Melich, A. Mestreau-Garreau, D. Mollet, L. Mosdorf, M. Mosdorf, M. Mroczkowski, R. Muller, G. Nicolini, B. Nicula, K. O'Neill, P. Orleaski, M. C.

Palau, M. Pancrazzi, A. Paschalidis, K. Patoka, R. Peresty, I. Popescu, P. Psota, M. Rataj, J. Rautakoski, M. Romoli, R. Rybecký, L. Salvador, J. S. Servaye, C. Solomon, Y. Stockman, A. Swat, C. Thizy, M. Thomé, K. Tsinganos, J. Van Der Meulen, N. Van Vooren, T. Vit, T. Walczak, A. Zarzycka, J. Zender, and A. Zhukov, "Design status of ASPIICS, an externally occulted coronagraph for PROBA-3 C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2015).

75. D. Roman, P. Pavel, L. Vít, V. Tomáš, V. Jan, and K. Václav, "Measurement of asymmetric temperature field by using digital holographic multidirectional interferometry C3 - Digital Holography and Three-Dimensional Imaging, DH 2012," (2012).

76. D. Šimurda, P. Psota, P. Šidlof, R. Kielb, M. Luxa, J. Hála, and J. Lepicovsky, "Optical measurement and visualization of transonic airflow in a compressor blade cascade," Journal of Visualization 26, 529-549 (2023).

77. M. Stašík, J. Kredba, J. Nečásek, V. Lédl, U. Fuchs, and P. Psota, "Aspheric surface measurement by absolute wavelength scanning interferometry with model-based retrace error correction," Optics Express 31, 12449-12462 (2023).

78. M. Stašík, P. Psota, V. Lédl, and J. Kredba, "Subaperture stitching computation time optimization using a system of linear equations," Applied Optics 60, 8556-8568 (2021).

79. H. Tang, P. Psota, J. J. Rosowski, J. T. Cheng, and C. Furlong, "High speed Holographic Shape and Vibration Measurement of the Semi-transparent Tympanic Membrane C3 - Conference Proceedings of the Society for Experimental Mechanics Series," (2021), pp. 67-71.

80. H. Tang, P. Psota, J. J. Rosowski, J. T. Cheng, and C. Furlong, "Holographic Measurement of Semi-transparent Tympanic Membrane Shape Using Multiple Angle Illuminations C3 - Conference Proceedings of the Society for Experimental Mechanics Series," (2021), pp. 79-82.

81. H. Tang, P. Psota, J. J. Rosowski, C. Furlong, and J. T. Cheng, "Analyses of the Tympanic Membrane Impulse Response Measured with High-Speed Holography," Hearing Research 410 (2021).

82. H. Tang, P. Psota, J. J. Rosowski, C. Furlong, and J. T. Cheng, "Ultra-high speed holographic shape and displacement measurements in the hearing sciences," Light: Advanced Manufacturing 3, 179-192 (2022).

83. H. Tang, P. Razavi, K. Pooladvand, P. Psota, N. Maftoon, J. J. Rosowski, C. Furlong, and J. T. Cheng, "High-speed holographic shape and full-field displacement measurements of the tympanic membrane in normal and experimentally simulated pathological ears," Applied Sciences (Switzerland) 9 (2019).

84. J. Vaclavík, R. Dolecek, V. Lédl, and P. Psota, "Experimental study on SPDT machining of Gallium Phosphide C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2013).

85. L. Vít, P. Pavel, V. Jan, D. Roman, and V. Petr, "Multiwavelength digital holography for polishing tool shape measurement C3 - Proceedings of SPIE - The International Society for Optical Engineering," (2013).

86. T. Vít, V. Lédl, R. Doleček, and P. Psota, "The possibility of visualizing temperature fields using digital holographic interferometry C3 - Applied Mechanics and Materials," (2013), pp. 988-995.