

Curriculum Vitae

Ing. Milan Červenka, Ph.D.

Work experience

2002 - up to now: Assistant Professor, Faculty of Electrical Engineering, Czech Technical University in Prague, Department of Physics. **Teaching:** Physics, Astrophysics, Calculus, Linear Algebra, Theory of Sound Field

Education

1998 - 2003: Ph.D. course in Acoustics at Faculty of Electrical Engineering, Czech Technical University in Prague

1992 - 1998: Ing. (M.Sc. equivalent) at Faculty of Electrical Engineering, Czech Technical University in Prague

Research interests

Nonlinear acoustics (high-amplitude standing waves, sound beams), computational acoustics (HPC computing, GPGPU computing, FEM modeling), ultrasound, acoustic measurements and signal processing, insects acoustic communication.

Grant projects (Grant agency of Czech Republic)

2015-2017: 15-23079S - Acoustic wave propagation through nonlocal dispersion zones - member of team

2012 - 2014: P101/12/1925 - New methods of generation and utilization of standing acoustic waves of finite-amplitudes - member of team

2009 - 2011: 202/09/1509 - Generation of low-frequency sound beams - member of team

2006 - 2008: 202/06/0576 - Finite-amplitude waves in fluids - member of team

2004 - 2006: 202/04/P099 - Nonlinear interactions in acoustic resonators - responsible solver

2001 - 2003: 202/01/1372 - Nonlinear acoustic interactions in fluids - member of team

Selected publications

1. Červenka, M. – Bednařík, M.: Acoustic bandpass filters employing shaped resonators. *Journal of Sound and Vibration*. 2016, 383 76-88. ISSN 0022-460X.
2. Červenka, M. – Bednařík, M.: Variety of acoustic streaming in 2D resonant channels. *Wave Motion*. 2016, vol. 66, p. 21-30. ISSN 0165-2125.
3. Bednařík, M. – Červenka, M. – Lotton, P. – Penelet, G.: Behavior of plane waves propagating through a temperature-inhomogeneous region. *Journal of Sound and Vibration*. 2016, vol. 362, p. 292-304. ISSN 0022-460X.
4. Červenka, M. – Bednařík, M.: Calculation of an axial temperature distribution using the reflection coefficient of an acoustic wave. *The Journal of the Acoustical Society of America*. 2015, vol. 138, no. 4, p. EL359-EL364. ISSN 0001-4966.
5. Červenka, M. – Bednařík, M.: Acoustic particle displacement resonator. *Applied Acoustics*. 2015, vol. 99, p. 155-160. ISSN 0003-682X.
6. Bednařík, M. – Červenka, M.: Finite amplitude standing waves in resonators terminated by a general impedance. *The Journal of the Acoustical Society of America*. 2015, vol. 137, no. 3, p. 1257-1264. ISSN 0001-4966.

7. Červenka, M. – Bednařík, M.: On the structure of multi-Gaussian beam expansion coefficients. *ACTA ACUSTICA UNITED WITH ACUSTICA* . 2015, vol. 101, no. 1, p. 15-23. ISSN 1610-1928.
8. Červenka, M. – Šoltés, M. – Bednařík, M.: Optimal shaping of acoustic resonators for the generation of high-amplitude standing waves. *The Journal of the Acoustical Society of America*. 2014, vol. 136, no. 3, p. 1003-1012. ISSN 0001-4966.
9. Bálek, R. – Červenka, M. – Pekárek, S.: Acoustic field effects on a negative corona discharge. *Plasma Sources Science and Technology*. 2014, vol. 23, no. 3, p. 1-9. ISSN 0963-0252.
10. Bednařík, M. – Červenka, M.: Equations for description of nonlinear standing waves in constant-cross-sectioned resonators. *JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA*. 2014, vol. 135, no. 3, p. EL134-EL139. ISSN 0001-4966.
11. Červenka, M., Bednařík, M.: Non-paraxial model for a parametric acoustic array. *JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA*. 2013, vol. 134, no. 2, p. 933-938. ISSN 0001-4966.
12. Červenka, M., Bednařík, M.: On the Optimization of an Acoustic Resonator Shape with Respect to Acoustic Pressure Amplitude. *ACTA ACUSTICA UNITED WITH ACUSTICA* . 2013, vol. 99, no. 2, p. 183-192. ISSN 1610-1928.
13. Kindl, J., Kalinová, B., Červenka, M., Jílek, M., Valterová, I.: Male moth songs tempt females to accept mating: The role of acoustic and pheromonal communication in the reproductive behaviour of *Aphomia sociella*. *PLoS ONE* [online]. 2011, vol. 6, no. 10, ISSN 1932-6203.
14. Wohl, P., Bednařík, M., Wohl, P., Červenka, M., Špičák, J.: Comparison of various strategies for colorectal cancer screening tests. *European Journal of Gastroenterology & Hepatology*. 2011, vol. 23, no. 12, p. 1157-1164. ISSN 0954-691X.
15. Bednařík, M., Červenka, M.: Propagation of nonlinear acoustic plane waves in an elastic gas-filled tube. *JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA*. 2009, vol. 126, no. 4, p. 1681-1689. ISSN 0001-4966.
16. Bálek, R., Pekárek, S., Červenka, M.: Ultrasonic Field Effects on Corona Discharge in Air. *IEEE Transactions on Plasma Science*. 2008, vol. 36, no. 4, p. 920-921. ISSN 0093-3813.
17. Bednařík, M., Červenka, M.: Nonlinear interactions in elastic resonators. *Ultrasonics*. 2006, vol. 44, no. Suppl. 1, p. 783-785. ISSN 0041-624X.
18. Červenka, M., Bednařík, M.: Nonlinear standing waves in 2-D acoustic resonators. *Ultrasonics*. 2006, vol. 44, no. Suppl. 1, p. 773-776. ISSN 0041-624X.
19. Červenka, M., Bednařík, M.: Description of Finite-amplitude Standing Acoustic Waves Using Convection-diffusion Equations. *Czechoslovak Journal of Physics*. 2005, vol. 55, no. 6, p. 673-680. ISSN 0011-4626.

Prague, April 21, 2017