Ing. Pavel Márton, Ph.D. - Curriculum Vitae

Born: 12th July 1979 in Liberec, Czech Republic
Nationality: Czech
Affiliation: -**Institute of Physics, Academy of Sciences of the Czech Republic**, *Na Slovance 2, 182 21 Praha, Czech Republic*
-**Institute of Mechatronics and Computer Engineering, Technical University of Liberec**, Studentská 2, *46117 Liberec, Czech Republic*
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Academic background

2003-2007 **Charles University in Prague**
Faculty of Mathematics and Physics
Institute of Mathematics (CU)
Ke Karlovu 3, 121 116 Praha, Czech Republic
Ph.D. studies, the doctoral thesis defended in 2007

1998-2003 **Czech Technical University in Prague**
Faculty of Nuclear Science and Physical Engineering
Department of Mathematics (CTU)
Břehová 7, 115 19 Praha, Czech Republic
Master degree in 2003

Research areas

2011-now **Technical University of Liberec**
Faculty of Mechatronics Informatics and Interdisciplinary Studies
Institute of Mechatronics and Computer Engineering (TUL)
Studentská 2, 461 17 Liberec, Czech Republic
Piezoelectric materials for applications, vibration damping, energy harvesting

2010-now **Academy of Sciences of the Czech Republic, Institute of Physics (ASCR)**
Na Slovance 2, 182 21 Praha, Czech Republic
Theoretical study of ferroelectric and multiferoic materials, domain structure theory and simulations, ab-initio calculation of structral properties and lattice dynamics

2007-2010 **Fraunhofer Institute for Mechanics of Materials IWM (IWM) (1.10.2007-30.9.2010)**
Wöhlerstrasse 11, 79 108 Freiburg im Breisgau, Germany
Ab-initio calculations and atomistic simulations of defect-related properties in ferroelectric perovskite oxides

2004-2007 **FZU, CU**
Doctoral thesis: Simulation of domain structure formation in ferroelectric materials
Development of the computer code **Ferrodo**

2001-2003 **FZU, CTU**
Master thesis: Selection rules for inelastic neutron scattering

Languages

English, German

Areas of interest

Piezoelectric materials with focus on ferroelectrics (theory, ab-initio and atomic-level simulations and calculations, phase-field modelling)

Vibration damping using semi-active methods (alternation of elastic properties of piezoelectric stack actuators used as damping elements)

Participation in projects

2004-2007 **GAČR 202/05/H003** Physics of complex physical systems

2006-2007 **GAČR 202/06/0411** Domain phenomena in ferroic materials

2007-2010 **BMBF 03X0510 COMFEM** Computer-based multiscale modelling for design of polycrystalline ferroelectric materials for actuators and sensors

2010-2012 **GAČR P204/10/0616** Modern piezoelectric perovskites: Lattice vibrations and domain walls

2010-2013 **MPO FR-TI2/165** Piezoelectric ceramics of new generation

2013-2015 **GAČ13-10365S** Planar acoustic metamaterials with the active control of acoustic impedance