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Curriculum Vitae

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Born: 31 March 1987 in Opočno, Czech Republic

Publications

- C. Rovelli and V. Zatloukal,
  Natural discrete differential calculus in physics,
  Found. Phys. **49** 693 (2019), arXiv:1902.03026.

- V. Zatloukal
  Local time of Levy random walks: a path integral approach,
  Phys. Rev. E **95**, 052136 (2017), arXiv:1702.02488.

- V. Zatloukal
  Classical field theories from Hamiltonian constraint: Local symmetries and static gauge fields, Adv. Appl. Clifford Algebras 28: 48 (2018), arXiv:1611.02906.

- P. Jizba, J. Korbel and V. Zatloukal,
  Tsallis thermostatics as a statistical physics of random chains,
  Phys. Rev. E **95**, 022103 (2017), arXiv:1610.07110.

- V. Zatloukal,
  Hamiltonian constraint formulation of classical field theories, Adv. Appl. Clifford Algebras **27**, 829-851 (2017), arXiv:1602.00468.

- P. Jizba and V. Zatloukal,
  Local-time representation of path integrals,
  Phys. Rev. E **92**, 062137 (2015), arXiv:1506.00888.

- V. Zatloukal,
  Classical field theories from Hamiltonian constraint: Canonical equations of motion and local Hamilton-Jacobi theory, Int. J. Geom. Methods Mod. Phys. **13**, 1650072 (2016), arXiv:1504.08344.

- V. Zatloukal, L. Lehman, S. Singh, J. K. Pachos, and G. K. Brennen,
  Transport properties of anyons in random topological environments,
  Phys. Rev. B **90**, 134201 (2014), arXiv:1207.5000.

- P. Jizba and V. Zatloukal, *Path-integral approach to the Wigner-Kirkwood expansion*,
  Phys. Rev. E **89**, 012135 (2014), arXiv:1309.0206.

- H. Kleinert and V. Zatloukal,
  Green function of the double-fractional Fokker-Planck equation: Path integral and stochastic differential equations,
  Phys. Rev. E **88**, 052106 (2013), arXiv:1503.01667.

- L. J. Lehman, V. Zatloukal, J. K. Pachos, G. K. Brennen,
  Braiding Interactions in Anyonic Quantum Walks,
  Quantum Computers and Computing (2012) **12** (1), pp. 51-62, arXiv:1210.3446.

- L. Lehman, V. Zatloukal, G. K. Brennen, J. K. Pachos, and Z. Wang,
  Quantum walks with non-Abelian anyons,
  Phys. Rev. Lett. **106** 230404 (2011), arXiv:1009.0813.

Scientific stays

CPT Luminy, Marseille, France (2018/2019), 6 months
- Discrete differential calculus in physics
  (with Prof. Carlo Rovelli)

Freie Universitaet and MPI for the History of Science, Berlin, Germany (2012-2016), 4 years
- Fractional Fokker-Planck equation, Applications of path integrals
  (with Prof. Hagen Kleinert)

ENS Lyon, France (2012), 2 months
- Low-temperature approximations of the equilibrium density matrix using path- and functional integrals
  (with Dr. Angel Alastuey)

Quantum information group, University of Leeds, United Kingdom (2011), 1 month
- spectral graph theory: Energy gaps of Hamiltonians from graph Laplacians using the Cheeger bound
  (with Dr. Jiannis Pachos)

Quantum information group, University of Leeds, United Kingdom (2010), 5 months
- applications of anyons in quantum information processing, specifically: Statistical dynamics of a non-Abelian anyonic quantum walk
  (with Dr. Jiannis Pachos)

Higher education

in the field of Mathematical Physics
at the Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in

Prague, Czech Republic (2006 – 2016):

- Bachelor degree in 2009, thesis “Applications of Supersymmetric Quantum Mechanics”, supervised by Ing. Petr Jizba, PhD.

- Master degree in 2011, thesis “Anyons and Their Significance in Quantum Mechanics and Statistical Physics”, supervised by Ing. Petr Jizba, PhD.

- Doctoral degree in 2016, thesis “Applications of Path Integrals in Quantum Theory and Statistical Physics”, supervised by Ing. Petr Jizba, PhD.