

Student conference

Methods of Algebra and Functional Analysis In Applications

Telč, May 15–18, 2023

Monday 15/5, chair: M. Tušek

8⁵⁰ – 9⁰⁰ **Opening**

9⁰⁰ – 9³⁰ **Romana Kvasničková** Weakly coupled bound states in semi-Dirac semi-metals

9³⁰ – 10⁰⁰ **Michal Jex** Visualising Quantum Mechanics

10⁰⁰ – 10³⁰ **Coffee break**

10³⁰ – 11²⁰ **František Štampach** The Schur test

11³⁰ – 13⁰⁰ **Lunch break**

13⁰⁰ – 13³⁰ **Tomáš Hrdina** Spectrum of the discrete bilaplace operator with complex potential

13³⁰ – 14⁰⁰ **Vojtěch Bartoš** Pseudospectrum and spectral stability of the discrete Schrödinger operator with a complex step potential

14⁰⁰ – 14³⁰ **Coffee break**

14³⁰ – 15⁰⁰ **David Kramár** Spectral stability of a relativistic quantum particle on a half-line

15⁰⁰ – 15³⁰ **Jan Havel** Pseudospectra in an operator-theoretic description of black holes

16⁰⁰ – 22⁰⁰ **Working on projects**

Tuesday 16/5, chair: B. Gerhat

9⁰⁰ – 9³⁰ **Tomáš Kalvoda** Kato's Upper and Lower Estimates of Eigenvalues

9³⁰ – 10⁰⁰ **Lukáš Heriban** Non-local delta shell interactions for the Dirac operator

10⁰⁰ – 10³⁰ **Coffee break**

10³⁰ – 11²⁰ **Matěj Tušek** Superbrief introduction to supersymmetric methods

11³⁰ – 13⁰⁰ **Lunch break**

13⁰⁰ – 13³⁰ **Patrik Šnauko** New families of orthogonal polynomials generated from the level 1 solution of the Heun equation and spectra of the corresponding Jacobi matrices

13³⁰ – 14⁰⁰ **Petr Blaschke** Calculus using hypergeometric functions

14⁰⁰ – 14³⁰ **Coffee break**

14³⁰ – 15⁰⁰ **Ruben Karapetyan** Discrete Dirac operator and its non-relativistic limit

15⁰⁰ – 15³⁰ **Ondřej Šrámek** Magnetic effects in the spectrum of laterally coupled layers

16⁰⁰ – 22⁰⁰ **Working on projects**

Thursday 18/5, chair: F. Štampach

$9^{00} - 9^{30}$	Borbala Gerhat Criticality analysis of fractional discrete Laplacians
$9^{30} - 10^{00}$	Duc Tho Nguyen Dirac operator with a discontinuous complex potential
$10^{00} - 10^{30}$	Coffee break
$10^{30} - 11^{00}$	Michele Zaccaron Shape sensitivity analysis of a Maxwell's cavity problem
$11^{00} - 11^{30}$	Rudolf Šmolka Groups Like Stars in the Night Sky
$11^{30} - 11^{40}$	Closing
$11^{45} - 13^{00}$	Lunch break