

## Monday, January 26

Morning session

Chairperson: G. Chadzitaskos

- 09:00 – 09:30 **Ivo Petr**  
*Index calculus and the discrete logarithm problem*
- 09:35 – 10:05 **Jan Vysoký**  
*Atiyah-Lie algebroid for pedestrians*
- 10:10 – 10:40 **Michal Jex**  
*Spectrum of delta' interaction supported by a curve*
- 11:00 – 11:30 **Hana Zemanová**  
*The interaction of electron with the electromagnetic wave complex propagating in plasma in the Earth's magnetic field*
- 11:35 – 12:00 **Martin Malachov**  
*Chaos in quantum information*
- 12:05 – 12:30 **Jan Vábek**  
*Theory of high-harmonic generation: quantum description of single-atom response*

## Tuesday, January 27

Morning session

Chairperson: L. Hlavatý

- 09:00 – 09:35 **Lenka Motlochová**  
*Multivariate gaussian cubature formulas arising in connection with root systems*
- 09:40 – 10:10 **Adam Brus**  
*Killing algebra of PP-wave metric*
- 10:15 – 10:40 **František Růžička**  
*Solvable models in PT-symmetric quantum mechanics*
- 11:00 – 11:25 **Iveta Semorádová**  
*Crypto-Hermitian interpretation of Klein-Gordon equation*
- 11:30 – 11:55 **Filip Hložek**  
*Operators in the theory of metamaterial cloaking*
- 12:00 – 12:25 **Kamila Vysoká**  
*Radiation hardness testing*

Afternoon session

Chairperson: L. Šnobl

- 14:30 – 15:05 **Petr Novotný**  
*A remark on Noether's theorem*
- 15:10 – 15:35 **Martin Prokš**  
*Applications of Information theory in time series analysis*
- 15:40 – 16:05 **Václav Svoboda**  
*Tsallis entropy and generalized Black-Scholes formula*
- 16:25 – 17:00 **Martin Štefaňák**  
*Modelling excitation transport with quantum walk*
- 17:05 – 17:30 **Jan Korbel**  
*On the Lambert W-function*

The 24th Student Conference "Winter School on Mathematical Physics"

25 – 31 January 2015

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**Wednesday, January 28**

excursions, skiing

## Thursday, January 29

Morning session

Chairperson: A. Slizewska

- 09:00 – 10:00 **Pavel Winternitz**  
*Superintegrability in classical and quantum mechanics I*
- 10:10 – 10:45 **Antonella Marchesiello**  
*Third-order superintegrable systems with potentials satisfying nonlinear equations*
- 11:00 – 11:30 **Joanna Zonenberg**  
*Boundedness of solution of four-dimensional difference system*
- 11:35 – 12:05 **Josef Navrátil**  
*Pattern formation in reaction-diffusion systems with unilateral condition*
- 12:10 – 12:40 **Iva Bezděková**  
*Limit distributions of quantum walks*

## Friday, January 30

Morning session

Chairperson: A. Odziejewicz

- 09:00 – 10:00 **Pavel Winternitz**  
*Superintegrability in classical and quantum mechanics II*
- 10:10 – 10:40 **Václav Zatloukal**  
*Geometry via Clifford Algebra*
- 11:00 – 11:25 **Jan Kotrbatý**  
*Automatic identification of low dimensional Lie algebras*
- 11:30 – 11:55 **Martyna Żuk**  
*Gauge groupoid*
- 12:00 – 12:25 **Izabela Wawreniuk**  
*The spectral theorem for self adjoint operators and orthogonal polynomials*