

CURRICULUM VITAE

Personal Data

Name: **Petr Siegl**
Date of Birth: 10th February 1984
Address: Nuclear Physics Institute (NPI), Department of Theoretical Physics,
Academy of Sciences of the Czech Republic (CAS), Řež 250 68, Czech Republic
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Education

Since 2008 Ph.D. programme under the joint supervision: Czech Technical University in Prague (CTU) and Université Paris Diderot Paris 7 (UP7)
2006 - 2008 CTU, Faculty of Nuclear Sciences and Physical Engineering (FNSPE)
Master Degree Programme: Mathematical Physics, Graduation with Honors, Diploma Thesis: Quasi-Hermitian Models
2007 - 2008 ERASMUS exchange programme stay at UP7
2003 - 2006 CTU, FNSPE, Bachelor Degree Programme: Mathematical Physics, Graduation with Honors, Bachelor Thesis: PT Symmetric Version of Supersymmetric Quantum Mechanics
1999 - 2003 J. A. Komenský Grammar School, Uherský Brod, CZ

Work Experience

Since 2007 Mathematical Physics Group at NPI, CAS
Since 2008 Theory Group at the Laboratory of Astroparticle and Cosmology (APC), UP7

Research Interest

Spectral theory of non-self-adjoint operators, $\mathcal{PT}$ -symmetric models in physics
Krein spaces and quantization on the de Sitter spacetime

Publications

2008

1. P. Siegl, Supersymmetric quasi-Hermitian Hamiltonians with point interactions on a loop, Journal of Physics A: Mathematical and Theoretical, 41, 244025 (11pp)

2009

2. M. Znojil, P. Siegl and G. Lévai, Asymptotically vanishing PT-symmetric potentials and negative-mass Schroedinger equations, Physics Letters A 373, 1921-1924
3. G. Lévai, P. Siegl and M. Znojil, Scattering in the PT-symmetric Coulomb potential, Journal of Physics A: Mathematical and Theoretical, 42, 295201 (9pp)
4. P. Siegl, The non-equivalence of pseudo-Hermiticity and presence of antilinear symmetry, PRAMANA-Journal of Physics , Vol. 73, No. 2, 279-287

2010

5. J.-P. Gazeau, P. Siegl and A. Youssef, Krein spaces in de Sitter quantum theories, SIGMA 6, 011, (23pp)
6. D. Krejčířík, P. Siegl, PT-symmetric models in curved manifolds, Journal of Physics A: Mathematical and Theoretical, 43, 485204
7. P. Siegl, PT-symmetric square well - perturbations and the existence of metric operator, International Journal of Theoretical Physics, to appear

Preprints

1. P. Siegl, Surprising spectra of PT-symmetric point interactions, arXiv:0906.0226v1
2. H. Bergeron, J.-P. Gazeau, P. Siegl, and A. Youssef, Semi-classical behavior of Pöschl-Teller coherent states, arXiv:1007.3876
3. H. Hernandez-Coronado, D. Krejčířík, and P. Siegl, Perfect transmission scattering as a PT-symmetric spectral problem, arXiv:1011.4281

Conferences, Workshops, and Schools

2010

- 04.11. - 06.11. Journées mathématiques de Kairouan 2, Kairouan, TN
06.09. - 10.09. QMATH 11 Mathematical Results in Quantum Physics, Hradec Králové, CZ
12.07. - 16.07. 21th International Workshop on Operator Theory and Applications, Berlin, DE
05.07. - 09.07. VW School Infinite Dimensional Operator Matrices Theory and Applications, Technical University Berlin, DE
21.06. - 24.06. 9th International Workshop on Pseudo Hermitian Hamiltonians in Quantum Physics, Hangzhou, CN

2009

- 18.11. - 21.11. Spectral Problems and Related Topics, Moscow, RU
01.10. - 06.10. Fundamental Mathematics and its Employment in Natural Science, Ufa, RU
21.09. - 25.09. 20th International Workshop on Operator Theory and Applications, Guanajuato, MX
23.08. - 04.09. Workshop Partial Differential Equations, Optimal Design and Numerics, Benasque, ES
31.07. - 08.08. XVI International Congress on Mathematical Physics, Young Researcher Symposium, Prague, CZ
27.05. - 28.05. Analytic and Algebraic Methods in Physics V, Prague, CZ
16.02. - 21.02. 3rd School and Workshop on Mathematical Methods in Quantum Mechanics, Brixen, IT
12.01. - 16.01. 8th International Workshop on Pseudo Hermitian Hamiltonians in Quantum Physics, Mumbai, IN

2008

- 23.08. - 29.08. Student Colloquium and School on Mathematical Physics, Stará Lesná, SK
29.06. - 11.07. 7th International Workshop on Pseudo Hermitian Hamiltonians in Quantum Physics, Benasque, ES

2007

- 16.07. - 18.07. 6th International Workshop on Pseudo Hermitian Hamiltonians in Quantum Physics, London, GB

Teaching

- 2009 - 2011 Co-supervisor of the research project and Diploma thesis of J. Železný, FNSPE, CTU, Prague, CZ, supervisor D. Krejčířík
2010 - 2011 Co-supervisor of the Bachelor thesis of R. Novák, FNSPE, CTU, Prague, CZ, supervisor D. Krejčířík
Mai - July 2009 Co-supervisor of the research project of T. Vanel, APC, UP7, Paris, FR, supervisor J.-P. Gazeau
2006 - 2007 Exercise classes of mathematical analysis at FNSPE, CTU, Prague, CZ

Other Professional Activities

- 30.08. - 03.09.2010 Convenor (with D. Krejčířík and J.-P. Gazeau) of ESF Exploratory Workshop on Mathematical Aspects of the Physics with Non-self-adjoint Operators, Prague, CZ
Mai 2010 Guest editor (with M. Znojil) of Acta Polytechnica, Proceedings of Analytic and Algebraic Methods in Physics VI, Prague, CZ
21.10.2008 Convenor (with P. Exner and J. Dittrich) of the Analytic and Algebraic Methods in Physics IV: Canonical Realization, Prague, CZ

Languages

Czech (native), English (advanced), French (intermediate),
German (intermediate), Spanish (basic)

References

Miloslav Znojil, NPI, CAS, Řež, CZ
David Krejčířík, NPI, CAS, Řež, CZ
Jean-Pierre Gazeau, APC, UP7, Paris, FR