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2 May 2024, 6 pm (UTC+3)

Some recent developments in Hardy-type inequalities

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We intend to give an overview of some recent results on (optimal) Birman–Hardy–Rellich-type inequalities. In particular, we will discuss power-weighted inequalities and some of their logarithmic refinements in all space dimensions $n \geq 1$. In dimension one we will present a new perturbative Hardy-type inequality which sheds some light on the origin of Hardy inequalities.

Hardy-type inequalities are a basic tool in the spectral theory of differential operators and we intend to briefly illustrate their relevance.

This is based on various joint work with L. Littlejohn, I. Michael, R. Nichols, M. M. H. Pang, and J. Stanfill.

*Seminar website: https://msrn.sfedu.ru/sl. The seminar uses Microsoft Teams online platform.
Please send questions to ademp.seminar@gmail.com (Tatiana Andreeva, scientific secretary).

The seminar is organized by the coordinators Alexey Karapetyants and Vladislav Kravchenko within the activities of the Regional Mathematical Center of the Southern Federal University in collaboration with Institute of Mathematics, Mechanics and Computer Sciences of the Southern Federal University and the OTHA research group in Operator Theory and Harmonic Analysis.

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