Pseudospectra and Schrödinger operators with complex potentials

Petr Siegl[1]
Mathematical Institute, University of Bern, Switzerland[1]
petr.siegl@math.unibe.ch[1]

The departure from the behavior of normal operators can be described by the notion of pseudospectra. In particular, the pseudospectral analysis reveals spectral (in)-stabilities or yields decay rates of the associated semigroup (time evolution). We summarize main facts on pseudospectra and explain how recent tools can be used for the analysis of Schrödinger operators with complex potentials.

The talk is partly based on

[1] P. Siegl and D. Krejčiřík, *On the metric operator for the imaginary cubic oscillator*, Physical Review D, 86, (2012) 121702(R).
[2] D. Krejčiřík, P. Siegl, M. Tater, and J. Viola, *Pseudospectra in non-Hermitian quantum mechanics*, Journal of Mathematical Physics, 56, (2015) 103513.