



## Mathematics and CS Seminar

# Functions of perturbed self-adjoint operators

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**Host: Robert Seiringer**

We consider the difference  $f(H_1) - f(H_0)$  for self-adjoint operators  $H_0$  and  $H_1$  acting in a Hilbert space. We establish a new class of estimates for the operator norm and the Schatten class norms of this difference. Our estimates utilise ideas of scattering theory and involve conditions on  $H_0$  and  $H_1$  in terms of the Kato smoothness. They allow for a much wider class of functions  $f$  (including some unbounded ones) than previously available results do. As an example we consider the case where

$H_0 = -\Delta$  and  $H_1 = -\Delta + V$  are the free and the perturbed Schrödinger operators in  $L^2(\mathbb{R}^d)$ , and  $V$  is a real-valued short range potential.

The talk is based on joint work with A. Pushnitski.

**Thursday, January 31, 2019 04:30pm - 06:30pm**

IST Austria Campus Big Seminar room Ground floor / Office Bldg West (I21.EG.101)



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