

**SPEAKER:**

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**TITLE:**

Stability of a Szego-type asymptotics

**ABSTRACT:**

After giving an introduction to Szego-type asymptotics for Schroedinger operators, we discuss recent progress and present a new result on the stability of such an asymptotic expansion under perturbations: We show that, for a fairly large class of test functions, the second-order Szego-type asymptotics for the multi-dimensional Laplacian, which was proved by Leschke, Sobolev and Spitzer in 2014, does not change upon perturbing the Laplacian by a compactly supported bounded potential. In our proof, we control the effect of the perturbation with the help of a limiting-absorption principle. The result has also implications for entanglement entropies of ground states of quasi-free Fermi gases.