IST AUSTRIA
Institute of Science and Technology

Mathematics and CS Seminar

Spectral properties of leaky quantum structures

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Host: Laszlo Erdös

The subject of the talk are Schrödinger operators with an attractive singular 'potential', supported by a manifold or a geometric complex Γ of codimension one, formally written as $-\Delta-\alpha\delta(x-\Gamma)$. I am going to discuss the ways in which spectral properties of such systems are influenced by the geometry of the interaction support with the main attention paid to situations when the coupling constant is large or the geometric perturbation is weak, and asymptotic expansions can be derived. It will also be shown how these can be approximated by regular potentials or by arrays of point interactions, and discuss effects arising from the presence of a magnetic field, in particular, the influence of an Aharonov-Bohm flux on the so-called Welsh eigenvalues. If time allows, I will say a few words about the analogous problem for Dirac operators.

Wednesday, December 18, 2019 at 4 pm
Foyer Seminar Room (I21.EG 128) / Office Building West

This invitation is valid as a ticket for the IST Shuttle from and to Heiligenstadt Station. Please find a schedule of the IST Shuttle on our webpage (note that the IST Shuttle times are highlighted in dark green):
https://ist.ac.at/wp-content/uploads/2019/03/IST_Shuttle_Bus_timetable.pdf
The IST Shuttle bus is marked IST Shuttle and has the Institute Logo printed on the side.