Seminar/Talk

Geometric perturbations of soft quantum waveguides

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Host: Robert Seiringer

Soft quantum waveguides are quantum mechanical systems in which aparticle is confined by an attractive potential in the vicinity of a curve,rather than by a hard boundary or singular interaction. I will discuss twogeometric perturbations of such systems. The first concerns an array ofpotential wells in dimensions two and higher, where the axial symmetry isdiscrete. Shifting finitely many wells along the axis, even a single one and byan arbitrarily small amount, produces a bound state below the essentialspectrum. The second concerns a twisted soft waveguide in three dimensions,for which I will present a Hardy inequality. It shows that the Hamiltonian issubcritical, so that weak attractive perturbations do not bind.

Tuesday, October 20, 2026 03:00pm - 05:00pm
Office Bldg West / Ground floor / Heinzel Seminar Room (I21.EG.101)

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