

# Abstract

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“Low-energy asymptotics in perturbed periodically twisted quantum waveguides”

In this talk, we consider the Dirichlet Laplacian in a three-dimensional waveguide obtained as a perturbation of a periodically twisted tube. The perturbation consists of both bending and twisting and depends on a coupling parameter. We expand the resolvent of the perturbed operator near the bottom of its essential spectrum, we show the existence of exactly one resonance in the asymptotic regime, and we compute the leading term of the asymptotic.