The one dimensional semi-classical Bogoliubov-De Gennes Hamiltonian

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Abstract

Bogoliubov-de Gennes (BdG) Hamiltonian describes the dynamics of a pair of quasi-particles
in SNS junctions. In this talk, we are interested in resonances for the associated scattering
processes. Actually, assuming existence of such resonances, we present a method for computing the first order asymptotics of their real parts, as solutions of generalized Bohr-Sommerfeld
quantization rules. It relies on the construction of "relative monodromy operators" in classically allowed region which belong to the unitary group associated to the "flux norm" (in
fact, a Lorenzian metric) generalizing a concept introduced by Helffer and Sjostrand. (see
complete description in the pdf file).

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