MATEMATISKA INSTITUTIONEN
STOCKHOLMS UNIVERSITET
Avd. Matematik

SJÄLVSTÄNDIGT ARBETE I MATEMATIK

Onsdagen den 10 december kl. 15.30–16.30 presenterar Andrea Serio sitt arbete "Quantum graphs: spectrum and magnetic fields" (30 högskolepoäng, avancerad nivå).

Handledare: Pavel Kurasov (Stockholm University) och Paolo Ciatti (University of Padua)

Plats: Sal 31, hus 5, Kräftriket

Sammanfattning: For particular properly connecting matching conditions on the eight-shape quantum graph equipped with the magnetic Schrödinger operator it occurs that if one of the two fluxes is a multiple of π, then the spectrum does not depend on the other one. There is a double check of this property: through the characteristic equation and the trace formula. There is also an interpretation via the set of the closed paths along the graph. Furthermore the effect has been recognised as a topological damping of the Aharonov-Bohm effect. This phenomenon is unexpected and occurs due to a nontrivial interplay between the topology of the graph and matching conditions involved.

Alla intresserade är välkomna!