

SEMINÁRIO DO GRUPO DE FÍSICA MATEMÁTICA

Dia 5 de maio (sexta-feira), às 11h00, sala 6.2.33

Bohr-Sommerfeld quantization conditions for non-selfadjoint perturbations of selfadjoint operators in dimension one

Ophélie Rouby

(Grupo de Física Matemática - Universidade de Lisboa)

Abstract: We interest ourselves in the spectral theory of non-selfadjoint semi-classical operators in dimension one and in asymptotic expansions of eigenvalues. These expansions are written in terms of geometrical objects in a complex phase space coming from classical mechanics and correspond to a generalization of Bohr-Sommerfeld quantization conditions in the non-selfadjoint case. First we will study non-selfadjoint perturbations of selfadjoint pseudo-differential operators in dimension one. As a corollary, we will establish for PT-symmetric perturbations of selfadjoint operators that the spectrum is real. Then we will show Bohr-Sommerfeld quantization conditions for non-selfadjoint perturbations of selfadjoint Berezin-Toeplitz operators of the complex plane.