

SEMINÁRIO DO GRUPO DE FÍSICA MATEMÁTICA

Dia 4 de abril (terça-feira), às 14h00, sala 6.2.33

Generalizations of Pleijel's nodal domain theorem

Corentin Léna

(Università degli Studi di Torino)

Abstract: Courant's nodal domain theorem tells us that an eigenfunction associated with the k^{th} eigenvalue of the Laplacian has at most k nodal domains. A. Pleijel showed in 1956 that for a given planar domain, eigenfunctions satisfying a Dirichlet boundary condition reach equality only for a finite number of k . We will study a generalization of this theorem to Robin-type boundary conditions, including the Neumann one, in any dimension. We will also consider the sharper results that can be obtained for particular domains.