Section Mathématiques

SEMINAIRE D'ANALYSE

➢ *VENDREDI 01 juillet 2011 à 15h15 à la salle MA A112*

Monsieur **Giovanni PISANTE** *(2ème Université de Naples, Italie)* donnera une conférence sur le thème:

"A SHAPE OPTIMIZATION PROBLEM RELATED TO THE TWISTED DIRICHLET EIGENVALUE"

Aim of the talk is to discuss a recent work on a generalization of the functional defining the first twisted eigenvalue. Indeed we look at the set functional

$$\lambda^{p,q}(\Omega) = \inf \left\{ \frac{\|\nabla v\|_{L^p(\Omega)}}{\|v\|_{L^q(\Omega)}}, v \neq 0, v \in W_0^{1,p}(\Omega), \int_\Omega |v|^{q-2}v = 0 \right\}$$

and, under suitable conditions on p and q that ensure the existence of a minimizer function, we investigate the validity of an isoperimetric type inequality of the Reyleigh-Faber-Krahn type.

More precisely, using an alternative approach, we extend a result proved by P. Freitas and A. Henrot in the case $p = q = 2$, proving that $\lambda^{p,q}(\Omega)$ is minimized by the union of two equal balls.

This talk is based on a joint work with G. Croce and A. Henrot.

Lausanne, le 22 juin 2011
BD/VL

_____

Les séminaires qui ont lieu à la Section de Mathématiques sont annoncés sur Internet à l'adresse WWW
(http:// memento.epfl.ch/cgi-bin/memento/select?memento=MATHS)