

B. Buffoni – B. Dacorogna – J. Krieger – H.M Nguyễn - Section Mathématiques

SEMINAIRE D'ANALYSE

➤ **VENDREDI 2 MAI 2014 à 15h15 - salle MA A331**

Professeur Ben Schweizer (TU Dortmund, Allemagne) donnera une conférence sur le thème:

« On cloaking by anomalous localized resonance »

Abstract: Cloaking is a name that is used to describe an invisibility effect: an object is made invisible by having a "cloaking device" around it or in the vicinity. The mathematical heart of the matter involves the behavior of a divergence-form elliptic equation in the plane, $\nabla \cdot (a(x)\nabla u(x)) = f(x)$. The complex-valued coefficient $a(x)$ has a matrix-shell-core geometry, with real part equal to 1 in the matrix and the core, and -1 in the shell; one is interested in understanding the resonant behavior of the solution as the imaginary part of $a(x)$ decreases to zero (so that ellipticity is lost). Most analytical work in this area has relied on separation of variables, and has therefore been restricted to radial geometries. We introduce a new approach based on a pair of dual variational principles, and apply it to some non-radial examples.

Lausanne, le 28 avril 2014
BD/HMN/MM

Les séminaires qui ont lieu à la Section de Mathématiques sont annoncés sur Internet
<http://memento.epfl.ch/maths/>