

SPEAKER: Zhongwei Shen, University of Kentucky

TITLE: Homogenization of Elliptic Equations with Almost-Periodic Coefficients

Abstract:

In the theory of homogenization one is trying to describe the macroscopic properties of microscopically heterogeneous media with rapidly oscillating microstructure, such as composite material. In this talk we will discuss some recent work on quantitative homogenization of second-order elliptic systems in divergence form with rapidly oscillating almost-periodic coefficients. We obtain estimates for approximating correctors in terms of a function that quantifies the almost periodicity of the coefficients. The results are used to investigate the problem of convergence rates.