

SPEAKER:

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TITLE:

Homogenization of Stokes systems and Uniform Regularity Estimates

ABSTRACT:

In this talk, we study the uniform regularity estimates for a family of Stokes systems with rapidly oscillating periodic coefficients. By using compactness method, we here establish interior Lipschitz estimates for velocity and L^∞ estimates for the pressure as well as a Liouville property for solutions in \mathbb{R}^d . We also obtain the boundary $W^{1,p}$ estimates in a bounded C^1 domain for any $1 < p < \infty$. At last, we will discuss the L^2 convergence rates of Dirichlet problem for Stokes system. This is joint work with Prof. Zhongwei Shen.