Tatiana Suslina
St. Petersburg State University

Homogenization of the stationary Maxwell system with periodic coefficients

We study homogenization of a stationary Maxwell system in $\mathbb{R}^3$ and in a bounded domain $\mathcal{O} \subset \mathbb{R}^3$ with sufficiently smooth boundary. The coefficients (electric permittivity and magnetic permeability) are periodic with respect to some lattice and depend on $\mathbf{x}/\varepsilon$. So, for small ε they oscillate rapidly. We are interested in the behavior of the solutions for small ε. The classical result is the weak L_2-convergence of the solutions to the solution of the effective problem, as $\varepsilon \to 0$. We find approximations for the solutions in the L_2-norm with error estimates of operator type.