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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 $x/\varepsilon$. So, for small $\varepsilon$ they oscillate rapidly. We are interested in the behavior of the solutions for small $\varepsilon$. 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.