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*Optimal Error Estimates in the Stochastic Homogenization for Elliptic Equations in Nondivergence Form*

I will present optimal quantitative error estimates in the stochastic homogenization for uniformly elliptic equations in nondivergence form. From the point of view of probability theory, stochastic homogenization is equivalent to identifying a quenched invariance principle for random walks in a balanced random environment. The main argument relies on utilizing an Efron-Stein type concentration inequality combined with regularity estimates on the random solutions. This talk is based on joint work with Scott Armstrong.