

# Homogenization of generalized second-order elliptic difference operators

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We are interested in studying the homogenization of generalized second-order difference operators. Under minor assumptions regarding weak convergence and ellipticity, we show that every such sequence admits a homogenization. We provide two examples that verify these assumptions: The first one consists situation with some minor regularity and the second one represents a random environment. We apply this to prove a hydrodynamic limit result for some gradient processes. Based in a joint work with Alexandre Bustamante Simas.