

CONVERGENCE OF RANDOM OSCILLATORY INTEGRALS IN THE
PRESENCE OF LONG-RANGE DEPENDENCE AND APPLICATION TO
HOMOGENIZATION

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Abstract: This paper deals with the asymptotic behavior of random oscillatory integrals in the presence of long-range dependence. As a byproduct, we solve the corrector problem in random homogenization of one-dimensional elliptic equations with highly oscillatory random coefficients displaying long-range dependence, by proving convergence to stochastic integrals with respect to Hermite processes.

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