

## Validity of Kinetic Models for Waves in Random Media

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We consider the derivation of kinetic equations to model the correlation of two wavefields such as e.g., acoustic or electromagnetic wavefields propagating in possibly different highly heterogeneous media. The main mathematical tool in the derivation is the Wigner transform. The validity of the kinetic models is then assessed by comparing the spatial distribution of the energy density they predict with simulations of wave equations in highly heterogeneous media. The simulations are performed in two space dimensions on domains of size comparable to 500 wavelengths. This is joint work with Olivier Pinaud.