

1172-60-114

Knut Solna* (ksolna@math.uci.edu), Mathematics, UC Irvine, Irvine, CA 92617, and **Josselin Garnier**. *Speckle Imaging and Propagation Through Strong Clutter*.

We present an imaging technique based on intensity speckle correlations over incident field position. Its purpose is to reconstruct a field incident on a strongly scattering random medium. The thickness of the complex medium is much larger than the scattering mean free path so that the wave emerging from the random section forms an incoherent speckle pattern. Our analysis clarifies the conditions under which the method can give a good reconstruction and characterizes its performance. The analysis is carried out in the white-noise paraxial regime. (Received August 22, 2021)