

Math Colloquium

USNA Monday April 18, 3:45 PM, Room CH110



Beam Propagation and Focussing in Complex Media

Speaker: Knut Solna

In many situations for wave propagation the medium may be complex and vary on many scales. In order to understand the resulting complex scattering situation it may then be convenient to model the medium as a random medium and analyze how the randomness in the medium affects the wave. We will discuss some basic aspects of waves in random media with an emphasis on the beam or paraxial regime. We will in particular discuss how a transmitted wave beam can be characterized statistically and how its scintillation depends on the source beam and the properties of the random medium, moreover, how one can achieve sharp focussing for proper choice of source beam.



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