

Optical transport in a disordered amplifying medium

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Classical wave propagation through disordered media has been studied in various contexts, ranging from atmospheric optics to disordered conductors. When waves scattered within the disordered medium undergo self-interference, several mesoscopic phenomena are realized, the most popular of them being Anderson localization. When propagation in the disordered medium is accompanied by amplification, novel phenomena are realized, that have not been anticipated in any of the traditional mesoscopic studies. In this talk, we shall give a brief introduction to this research field, and follow up with a description of our activities focused on the intensity and frequency fluctuations in these systems.