Contribution ID: **25** Type: **Invited Talk**

Lasing and Disorder Scattering Inspired by PT-Symmetry

Thursday 29 November 2018 16:30 (25 minutes)

In my talk I will present results from two recent projects centered around non-Hermitian physics and PT-symmetry. In the first project we managed to show that the line-width of a phonon laser broadens significantly when approaching a so-called “exceptional point” [1]. In the second project we implemented our theoretical prediction on scattering states in disordered media with constant intensity and perfect transmission [2] in an acoustic setup. Using several loudspeakers with gain and loss allows us to steer an incoming sound wave across a strongly disordered waveguide without any reflection or variation in its pressure [3].
[1] Zhang, Peng, Özdemir, Pichler, Krimer, Zhao, Nori, Liu, Rotter, Yang, Nature Photonics, 12, 479 (2018).
[2] Makris, Brandstötter, Ambichl, Musslimani, Rotter, Light Sci. Appl. 6, e17035 (2017).
[3] Rivet, Brandstötter, Makris, Lissek, Rotter, Fleury, arXiv:1804.02363 (Nature Physics, in print).

Content of the contribution

Both

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