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המכון למצב מוצק

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Anderson localization – to the subwavelength limit and beyond

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Abstract

How deep is deep subwavelength?

Anderson localization is a cornerstone of our understanding of the interaction of light with disorder. But in the deep subwavelength regime, all photonic transport effects, including Anderson localization, become trivialized and effective medium theory should take over.

This talk will present work on subwavelength disordered multilayer structures where each layer has an average thickness of $\lambda/40$ (experimentally) or $\lambda/1000$ (theoretically). I will show that disorder-induced localization dominates transport, that disorder can sometimes increase transmission rather than reduce it, and that changing a single layer by **2 nm** is shown to have a measurable effect on transport in visible wavelengths.

In addition, I will cover aspects of my work on evanescent gain and/or present the unique case of extended "edge states", which are extended modes living inside a bandgap.

ההרצאה תתקיים ביום רביעי, ה- 16.8.17 בשעה 12:30

באודיטוריום (החדש) בבניין המכון למצב מוצק, קומת כניסה

The lecture will take place on Wednesday, 16.8.17 at 12:30

at the Solid State Institute's (new) auditorium, ground floor

Ph.D Student of a Distinguished Professor Moti Segev