physikalisches Kolloquium

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Simulation of Condensed Matter Phenomena with Plasmonic Waveguide Arrays

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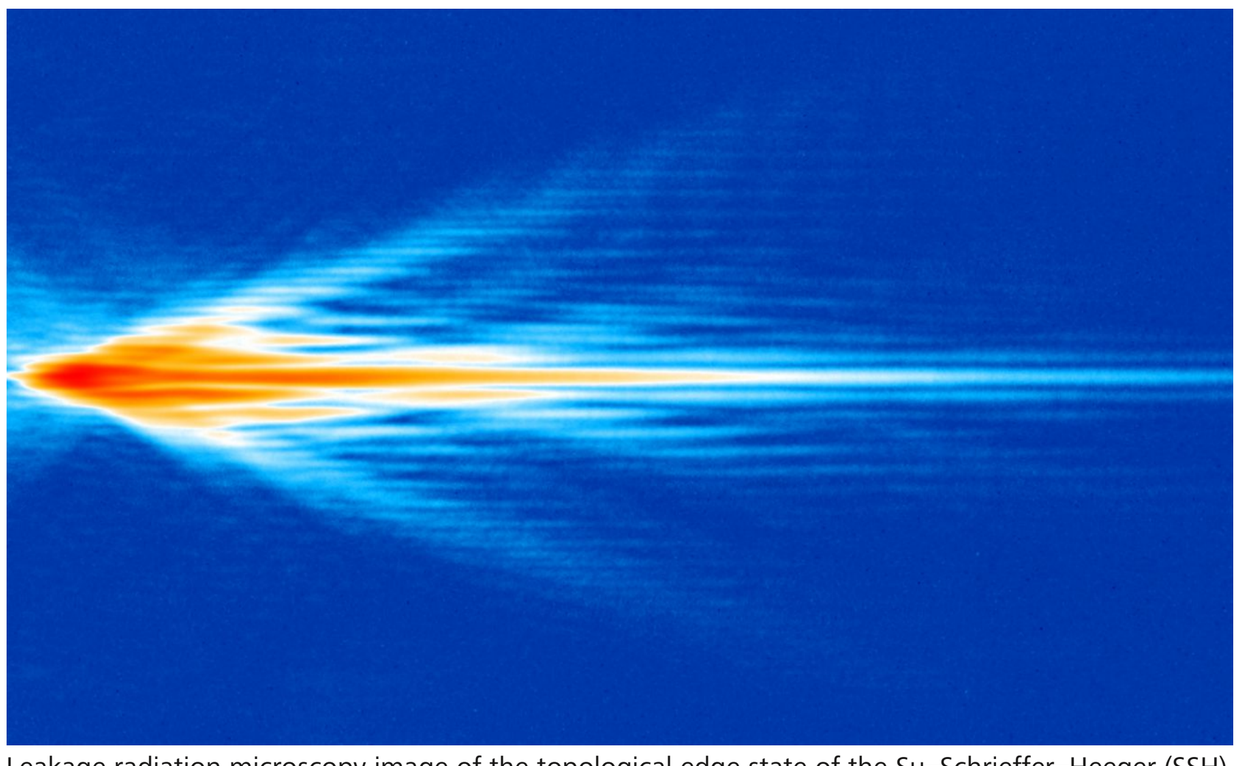
Ort: H34

In the past decade, arrays of evanescently coupled waveguides have provided a rich toolbox for the simulation of phenomena that are otherwise hard to realize experimentally in analogous condensed matter systems.

The underlying idea behind this is the mathematical equivalence between the time-dependent Schrödinger equation in the tight-binding approximation and the equations of the coupled mode theory that govern the evolution of light in the waveguide structures.

Here, we report on the observation of the Wannier-Stark ladder, Anderson localization, and topological edge states.



Leakage radiation microscopy image of the topological edge state of the Su–Schrieffer–Heeger (SSH) model.