

PHYSICS SEMINAR

Superresolution Imaging: Beating Classical Limitations with Quantum Physics

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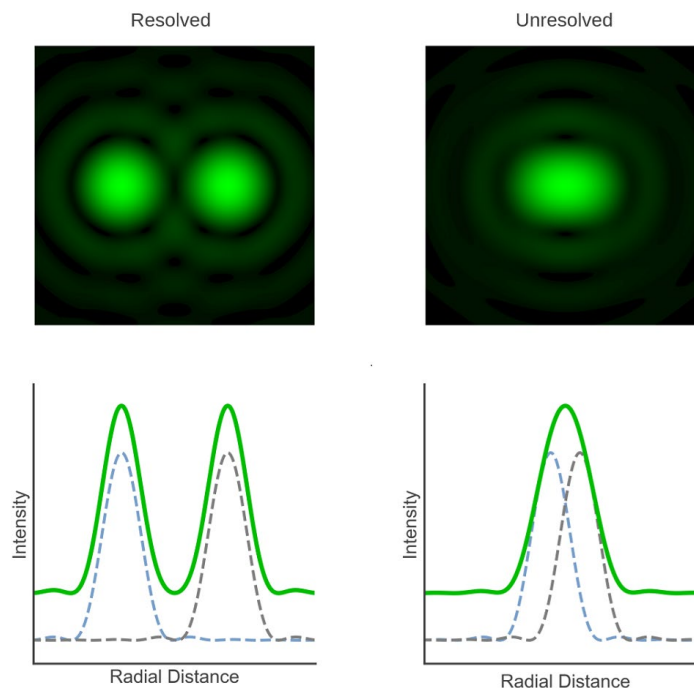
Thursday, August 27, 2026

12:30 – 1:30 p.m.

Wubben 264

Imaging resolution considers how well an optical imaging device can produce images that distinguish between or determine the separation between two or more optical sources. Interference and diffraction effects impede the ability of imaging devices to resolve the images produced by two sources and the Rayleigh criterion uses diffraction to set limitations on the angular separation of two sources so that they can be resolved.

Recent work in this area, considering the quantum statistical aspects of light, has shown that good resolution beneath the Rayleigh limit is possible even for extremely close sources. This talk will present an overview of the resolution issue, the framework for addressing it, selected results, and show how quantum physics promises enhanced resolution abilities.



Refreshments!