BENEMÉRITA UNIVERSIDAD AUTÓNOMA DE PUEBLA
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"Localization of light performing Lévy-walks in photonic lattices"

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Resumen: The localization of coherent propagating waves in homogeneous random media has been extensively studied over the years. However, there has been significantly less focus on wave localization in inhomogeneous systems, where the standard picture of Anderson localization does not apply. We use photonic lattices with inhomogeneous disorder modeled by Lévy α-stable distributions and measure the output light intensity profiles. Thus, we demonstrate that the spatial localization of light is described by stretched exponential functions characterized by a stretching parameter α. Furthermore, the localization profile is asymmetric with respect to the excitation site. This behaviour contrasts with the standard exponential and symmetric localization widely studied in Anderson localization phenomena.

Auditorio del Instituto
Viernes 15 de agosto de 2025
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