

The University of Texas at San Antonio

# UTSA Physics and Astronomy



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## **The Photon, a quantum enigma**

Superposition and nonlocality are some of the most intriguing aspects of quantum mechanics. Light has been the vehicle for many demonstrations of the mysteries of quantum mechanics, especially superposition. Yet that simple principle challenges our ideas of realism, causality and locality. They notions leave photons as a mystery in themselves: a particle and a wave, present here and there, or being extended but whole. What are they anyway? Experiments with light offer new ways to think about quantum mechanics but also new ways to think about photons, even if we end up more confused than when we started.

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