

Nonlocal de Broglie Wavelength of a Two-Photon System

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We show that it is possible to associate a de Broglie wavelength to a composite system even when the constituent particles are separated spatially. The *nonlocal* de Broglie wavelength ($\lambda/2$) of a two-photon system separated spatially is measured with an appropriate detection system. The two-photon system is prepared in an entangled state in space-momentum variables. – Pacs: 42.50.-p, 42.50.Ar

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