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**How Can One Measure Quantum Entanglement?** PRASHANNA SIMKHADA, JEAN-FRANCOIS VAN HUELE, Brigham Young University — Entanglement is a fundamental concept in quantum mechanics (QM) and a valuable resource in quantum information. An important question remains how to identify and quantify it. We review the concept of entanglement witness and introduce some proposed measures of entanglement. We then explore the relation of entanglement with superposition, which is another characteristic feature of QM. In particular, we present a proposal using Mach-Zehnder interferometry to analyze the occurrence of entanglement.

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