



# Entangled States and Quantum Weirdness

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#### Abstract

Entangled states of many particles, which are states that cannot be factored into a product of states of individual particles, have been with us since the introduction of quantum mechanics, but were first explicitly singled out by Schroedinger in a discussion of the Einstein-Podolsky-Rosen (EPR) paradox, to discuss the extremely un-classical nature of these states (quantum weirdness). Since that time, it has become much simpler to produce such states, and to experiment with them. We shall discuss a number of such modern experiments, besides the EPR experiment, and point out how amazing some of their properties are.

One can also go beyond two particles and in the three-particle case, their properties are even more amazing than in the two-particle case.

Light refreshments will be served.