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Quantifying entanglement in composite systems by Stern-Gerlach-like interactions SUZANNE FLATEN, JEAN-FRANCOIS VAN HUELE, Brigham Young University — Entropy is an accepted measure to quantify entanglement for bi-partite systems in pure states. We review the formulation of pure and mixed composite states and study the challenge of quantifying entanglement for multipartite systems states. Traditional Stern-Gerlach (SG) devices, evolve a non-entangled product state of spin and space into a maximally-entangled superposition. I will consider combinations of SG-like devices to quantify entanglement for the composite system, as a function of the incompatibility of the individual devices on the subsystems.

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