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“Wringing John Bell”

Abstract: Most physicists agree that the Einstein-Podolsky-Rosen-Bell paradox exemplifies much of the strange behavior of quantum mechanics, but argument persists over what it really means in terms of an underlying reality. In this talk, I use a set of simple and well-known thought experiments involving two correlated photons to help understand the logical assumptions behind the EPR and Bell arguments. In the end, we will see that the experimental violation of Bell's argument challenges our deepest intuition about the world. Some ambiguity remains about what type of weirdness is out there, but the world is certainly weirder than we ever imagined.