A Finsler space from quantum correlations and impurity

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Geodesic motion of a quantum object in a curved background space-time is subject to non-classical tidal effects because the wave function is spread out. Corresponding force terms can be derived by using a geometrical formulation of quantum mechanics combined with general relativity in canonical form. This talk shows how a correlated or mixed state implies a specific Finsler geometry in which this motion takes place.