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The Entanglement-Correlation Connection: Entropic workarounds to cutting-edge quantum characterization

Monday, 28 June 2021 16:00 (30 minutes)

This talk focuses on the relationship between the correlations we can measure between quantum objects, and the entanglement shared by them. In particular, we show how these correlations can be used to quantify (not just qualify) both bipartite and genuine multipartite entanglement, and show how the uncertainty principle fundamentally alters the relationship between correlation and entanglement in the multi-partite regime. In addition, we illustrate how entropic measures of correlation and uncertainty offer exceptional advantages in the efficient characterization of correlations and entanglement.

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