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Random Measurement for Multipartite Entanglement Detection

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RANDOM MEASUREMENT FOR MULTIPARTITE ENTANGLEMENT DETECTION Fan Chen

Mentors: Harald Weinfurter, Ludwig Maximilian University of Munich, and Kater Murch

Detecting entanglement in a multi-qubit system has been a challenging task since currently the commonly known methods are experimentally and computationally expansive. Recently, a novel and efficient method of entanglement detection via random measurement is proposed. This thesis reviews the theoretical background and presents the experimental realization of the method.