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令和７年度第４回超越量子未来アリーナ
ネオ･エクセレントコアセミナー

Efficient State Estimators for Quantum Networks

講 演 者：**Joshua Carlo Aparicio Casapao氏**
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日　　時：令和7年11月13日（木）15:00-16:30

開催場所：知識科学系講義棟　２階　中講義室

※オンライン配信あり

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【講演概要】

Quantum networks promise to provide an avenue for sharing quantum information among distant users, allowing distributed information processing and communication-based applications beyond the scope of their classical counterparts. With the advent of near-term scalable quantum networks drawing closer, there is a need for reliable estimation strategies that can efficiently and robustly characterize quantum resources to guarantee their quality during network service. It is also important that these strategies compensate for experimental realities by prioritizing resource efficiency, hardware efficiency, and measurement complexity, without being restricted by the tacit assumptions on the resources used or sacrificing the amount of learnable information. In this presentation, we propose resource-efficient strategies designed to learn states that are generated and distributed over a quantum network. Our estimation strategies can serve as real-time monitoring tools not just on the link-level but also on the end-to-end entangled states.

【講演者略歴】

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