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Process tomography within the hybrid formalism

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Abstract content (Max 300 words) **Formatting** **Special chars**

We consider the problem of tracking the evolution of a single quantum system when the dynamics are not precisely known, via a sequential measurement protocol. We encode the limited knowledge of the dynamical parameters in a classical system which is coupled to an estimate of the quantum state in order to form a hybrid quantum-classical system. The estimated hybrid state is updated using information obtained from sequential measurements on the quantum system and after a sufficient waiting period, the dynamical parameter can be determined. Convergence of the estimated hybrid state to the true state is demonstrated using numerical simulations.

Apply to be considered for a student award (Yes / No)?

Yes

Level for award (Hons, MSc, PhD, N/A)?

PhD

Main supervisor (name and email) and his / her institution

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No

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