

Abstract Submitted
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Monitoring quantum wavefunctions in the presence of dephasing noise HERMANN UYS, Council for Scientific and Industrial Research — POVM measurements allow quantum state estimation in real-time with minimal disruption of the dynamics. Here we demonstrate that high fidelity state estimation is possible even in the presence of dephasing and amplitude noise by simulating such measurements on a two-level system undergoing Rabi oscillations. Finite estimation fidelity persists long after the decoherence times set by the noise fields in the absence of measurements.

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