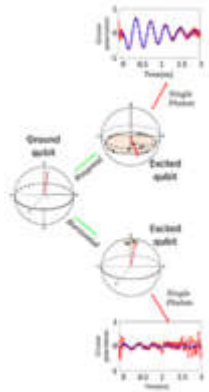


[Complete state tomography of a quantum dot spin qubit](#)

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Semiconductor quantum dots are the preferred choice for interfacing anchored matter spin qubits and flying photonic qubits. They are particularly attractive for generating highly entangled hybrid spin-multiphoton entangled cluster and graph states. These highly entangled multiqubit states are required for measurement-based quantum communication and computing. Here, the authors develop a novel all-optical method for conducting full tomography of the confined electronic spin qubits. This method is essential for characterization and benchmarking these hybrid entangled spin-multiphoton cluster and graph states.