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**Charge noise mitigation in triple-dot encoded spin qubits** EMILY PRITCHETT, HRL Laboratories — The immediate scalability of electrons confined to semiconductor quantum dots makes them one of the most attractive platforms for quantum information processing; however, 1/f charge noise associated with electrical confinement has been a leading source of noise in quantum dot systems. Recently, there has been a surge of experimental and theoretical work aimed at charge noisemitigation in quantum dot systems implementing AC- or DC- control of triple dots at "sweet spots". In this talk, we compare the symmetric operation point (SOP)DC control technique implemented in Reed, et al. [arXiv:1508.01223]to the resonant exchange (RX) AC control technique [Medford, et al., PRL 111, 050501 (2013), Taylor, et al., PRL 111, 050502 (2013), Russ, et al.,Phys. Rev. B 91, 235411 (2015)]. Numerical results suggest that both DC and AC triple-dot control can offer acomparably substantial reduction in chargenoise; however, the validity of the rotating wave approximation forces a trade-off between speed andaccuracy for RX qubits, while the performance of SOP qubits actually improves at shorter gate times.

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