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 noise mitigation 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 a comparably substantial reduction in charge noise; however, the validity of the rotating wave approximation forces a trade-off between speed and accuracy for RX qubits, while the performance of SOP qubits actually improves at shorter gate times.