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Selection of a Flux State in a Multi-well Asymmetric SQUID TAUNO A. PALOMAKI, S.K. DUTTA, HANHEE PAIK, R.M. LEWIS, R.C. RAMOS, H. XU, J.R. ANDERSON, C.J. LOBB, F.C. WELLSTOOD, Dept. of Physics University of Maryland, College Park — We have investigated the behavior of an asymmetric hysteretic dc SQUID for quantum computing. One junction acts as the Qubit, the other a detector, and the loop inductance provides isolation from the leads. One complication of this approach is that many minima are present in the potential, so that different trapped flux states exist, the number determined by the critical currents and inductances. Isolating a state is essential for controlling the Qubit and obtaining data efficiently. By oscillating the applied flux, similar to Lefevre-Seguin *et al.* [1], about a particular flux offset, a given flux state can be selected with high probability. We present data showing the effectiveness of this technique for flux selection at 20mK. This work is supported by the Department of Defense, the NSF and the Center for Superconductivity Research. [1] V. Lefervre-Seguin *et al.* Phys. Rev. B **46**, 5507 (1992).

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