Abstract Submitted
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Investigation of 1/f flux noise in superconducting circuits A. PUGLIELLI, S. SENDELBACH, Department of Physics, University of Wisconsin-Madison, C.B. EOM, J. PODKAMINER, K.H. CHO, Department of Materials Science and Engineering, University of Wisconsin- Madison, R. MCDERMOTT, Department of Physics, University of Wisconsin-Madison — Low-frequency 1/f flux noise is a dominant source of dephasing in the Josephson phase and flux qubits. Recent work has revealed the presence of a high density of unpaired spins at the surfaces of superconducting thin films; it is now believed that these spins are the source of the noise, although the microscopic noise mechanism is not understood. Here we describe experiments on SQUIDs and Josephson phase qubits designed to shed light on the underlying noise mechanism, and we describe efforts to develop novel materials with reduced levels of noise.

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