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Strong coupling of two flux qubits to a coplanar waveguide resonator¹ F. DEPPE, T. NIEMCZYK, E. P. MENZEL, E. HOFFMANN, M. J. SCHWARZ, A. MARX, R. GROSS, Walther-Meissner-Institut and TU Muenchen, Garching, Germany, M. BINA, Universita di Milano, Milano, Italy, J. J. GARCIA-RIPOLL, Instituto de Fisica Fundamental, CSIC, Madrid, Spain, E. SOLANO, Universidad del Pais Vasco and Ikerbasque Foundation, Bilbao, Spain — The field of circuit QED opens new possibilities in both quantum information processing and studies of fundamental quantum mechanics “on a chip.” Central building blocks are qubit circuits, which interact with on-chip superconducting microwave resonators. Of particular importance is the strong-coupling regime, where the coupling strength exceeds all relevant decay rates in the system. Here, we present spectroscopic measurements on two superconducting flux qubits strongly coupled to a coplanar waveguide resonator.

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