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Tunable coupling between two superconducting resonators F. DEPPE, F. WULSCHNER, A. BAUST, E. HOFFMANN, E.P. MENZEL, A. MARX, R. GROSS, Walther-Meissner-Institut and TU Muenchen, Germany, E. SOLANO, Universidad del Pais Vasco UPV/EHU and Ikerbasque, Spain, D. ZUECO, CSIC-Universidad de Zaragoza and Fundacion ARAID, Spain, J.-J. GARCIA RIPOLL, IFF-CSIC, Madrid, Spain — During the last decade, tremendous progress has been made towards quantum computation and quantum simulation with superconducting circuits. In such architectures, the controlled exchange of information between two superconducting transmission line resonators via a tunable coupling is a useful tool. Here, we present experimental progress on such devices. Specifically, the coupling is mediated either by a superconducting flux qubit or by an RF SQUID. Our results allow us to analyze the tunable coupling in frequency and time domain. We acknowledge support from: the DFG via SFB 631; the German excellence initiative via NIM; the EU projects CCQED, PROMISCE, SCALEQIT; Spanish MINECO FIS2009-12773-C02-01, FIS2011-25167, FIS2012-36673-C03-02; UPV/EHU UFI 11/55; Basque Government IT472-10.

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