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Compact superconducting coplanar microwave beam splitters[1] A. BAUST, N. KALB, M. HAEBERLEIN, J. GOETZ, E. HOFFMANN, E.P. MENZEL, M. SCHWARZ, F. WULSCHNER, L. ZHONG, F. DEPPE, A. MARX, R. GROSS, Walther-Meissner-Institute and TU Muenchen, Garching, Germany, SUPERCONDUCTING QUANTUM CIRCUITS AND NANOMECHANICS TEAM — The recent evolution of circuit quantum electrodynamics with standing-wave microwave modes towards setups for propagating quantum microwaves has triggered the need for low-loss superconducting microwave beam splitters. Such a device should have ports obeying the coplanar geometry relevant for circuit QED and, at the same time, be compact for the sake of scalability. This combination presents a serious challenge. In this work, we present an experimental characterization of various compact superconducting coplanar microwave beam splitters. In addition, we briefly discuss efforts towards a tunable beam splitter.

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