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Inline Cavity Qubit with Bifuraction Readout MARKUS BRINK, NICHOLAS A. MASLUK, KURTIS L. GEERLINGS, Yale University, MICHAEL METCALFE, NIST Gaithersburg, VLADIMIR MANUCHARYAN, LUIGI FRUNZIO, STEVEN M. GIRVIN, ROBERT J. SCHOELKOPF, MICHEL H. DEVORET, Yale University — We present the design and data from a new, strongly coupled superconducting qubit based on Josephson junctions and a strictly 1-dimensional distributed element geometry that operates in the Transmon regime. A cavity bifurcation amplifier is used to read the state of the qubit. The same circuit also supports a linear dispersive readout, which enables direct comparison between the latching and dispersive scheme. Most recent results will be discussed.

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