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Transmission line cavity as a quantum memory for superconducting phase qubits K. CICAK, F. ALTOMARE, J.I. PARK, M.A. SILLANPAÄ¹, R.W. SIMMONDS, National Institute of Standards and Technology, Boulder, CO 80305~USA — A superconducting transmission line cavity coupling two phase qubits has already proven useful as a bus for coherent state transfer¹. In this talk we will discuss our efforts in extending the work of Sillanpaä $et~al.^2$ to use a transmission line as a short term memory element.

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