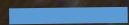



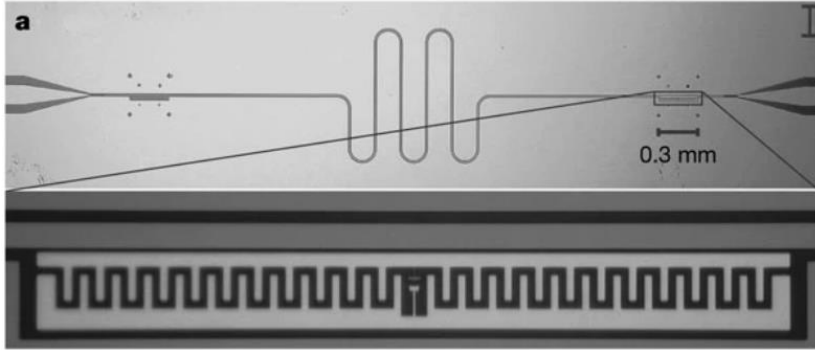
150 μm



Strong coupling of a single photon to a superconducting qubit using circuit quantum electrodynamics

A. Wallraff , D. I. Schuster, A. Blais, L. Frunzio, R.-S. Huang, J. Majer, S. Kumar, S. M. Girvin & R. J. Schoelkopf

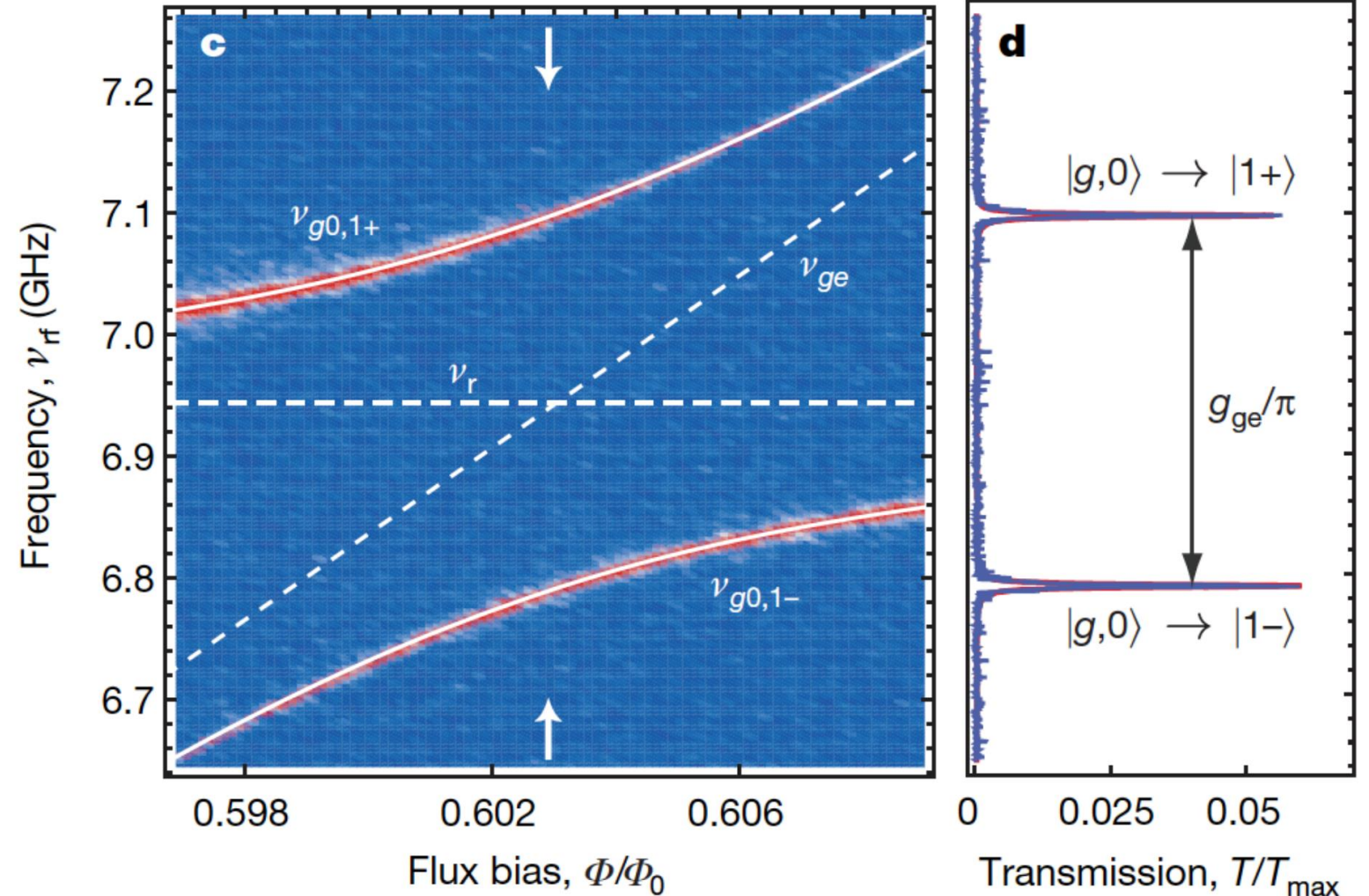
Nature **431**, 162–167 (2004) | [Cite this article](#)




Climbing the Jaynes–Cummings ladder and observing its nonlinearity in a cavity QED system

J. M. Fink , M. Göppl, M. Baur, R. Bianchetti, P. J. Leek, A. Blais & A. Wallraff 

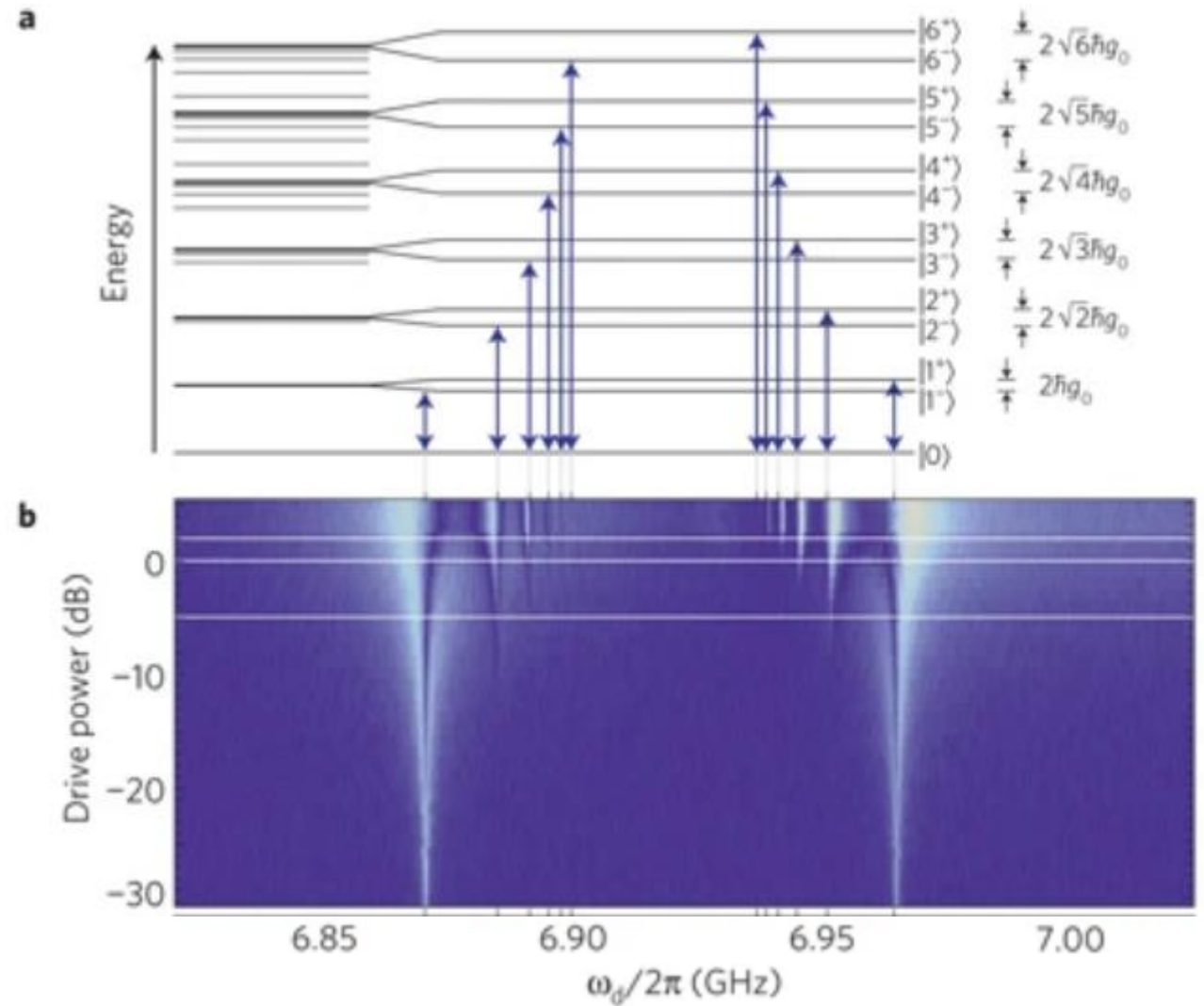
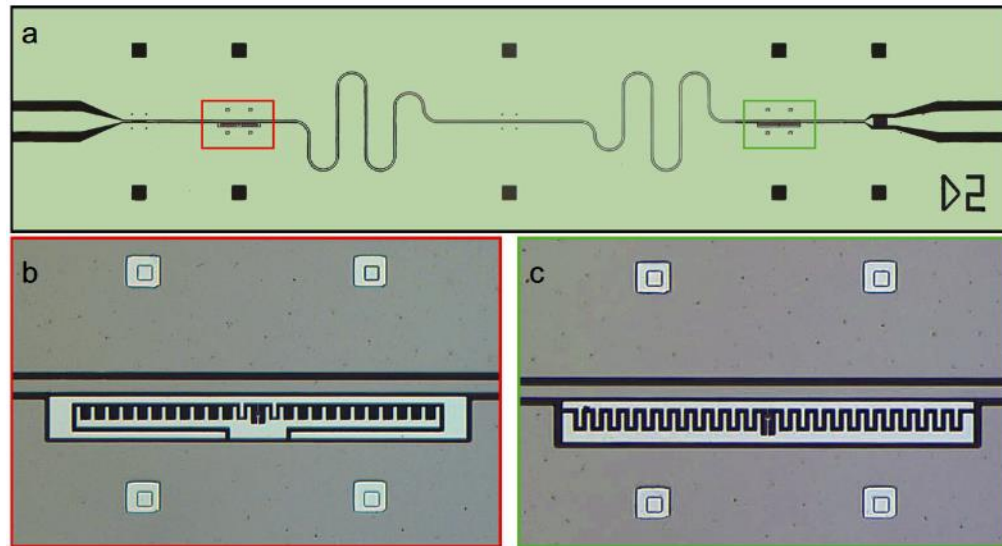
Nature **454**, 315–318 (2008) | [Cite this article](#)



Nonlinear response of the vacuum Rabi resonance

Lev S. Bishop, J. M. Chow, Jens Koch, A. A. Houck, M. H. Devoret, E. Thuneberg, S. M. Girvin & R. J. Schoelkopf 

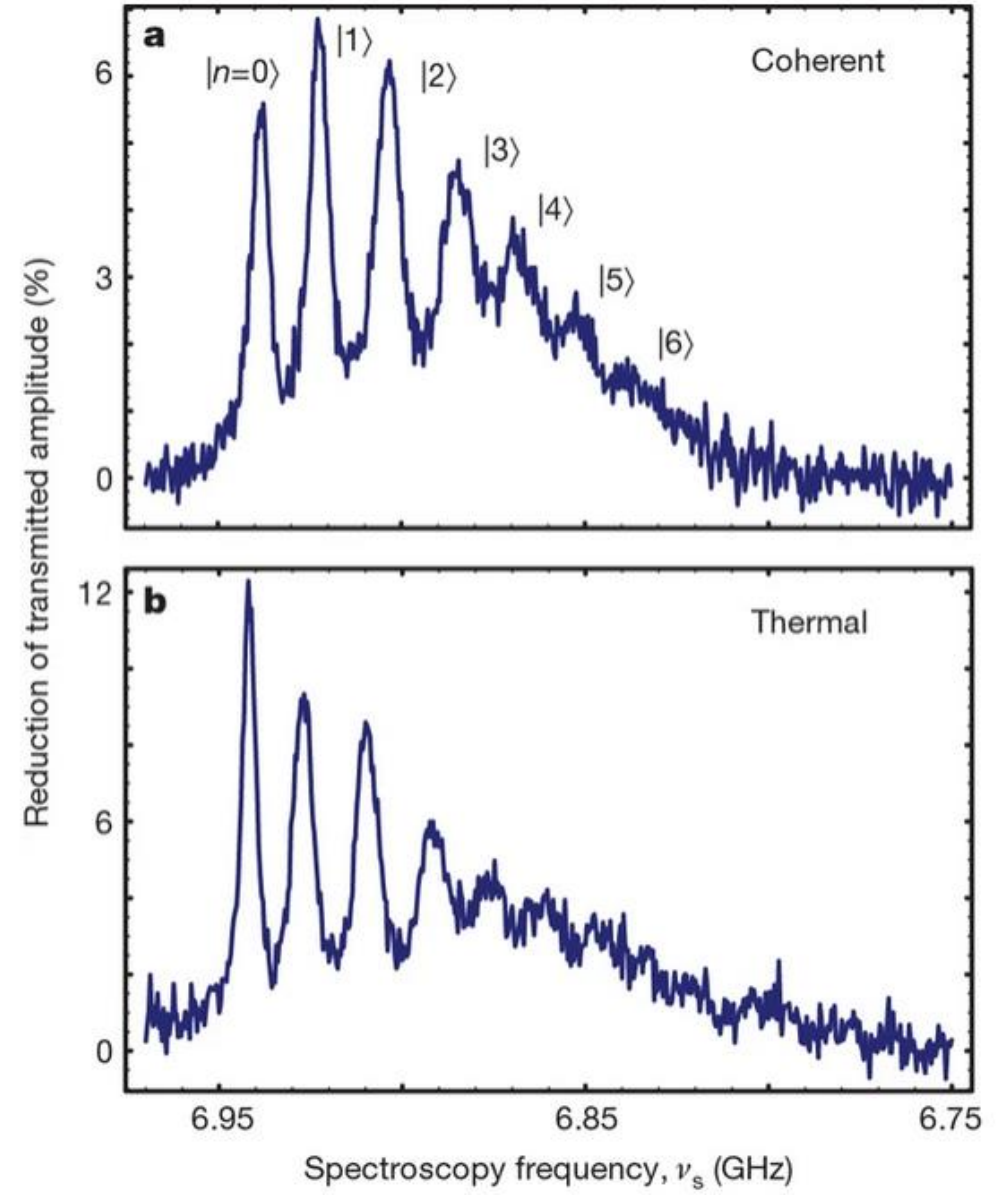
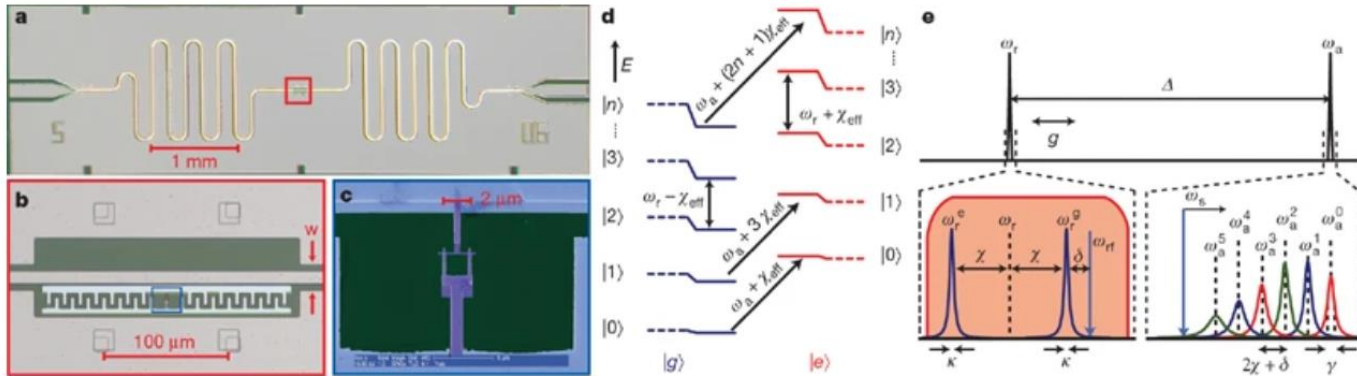
Nature Physics 5, 105–109 (2009) | [Cite this article](#)



Resolving photon number states in a superconducting circuit

D. I. Schuster, A. A. Houck, J. A. Schreier, A. Wallraff, J. M. Gambetta, A. Blais, L. Frunzio, J. Majer, B. Johnson, M. H. Devoret, S. M. Girvin & R. J. Schoelkopf 

Nature **445**, 515–518 (2007) | [Cite this article](#)

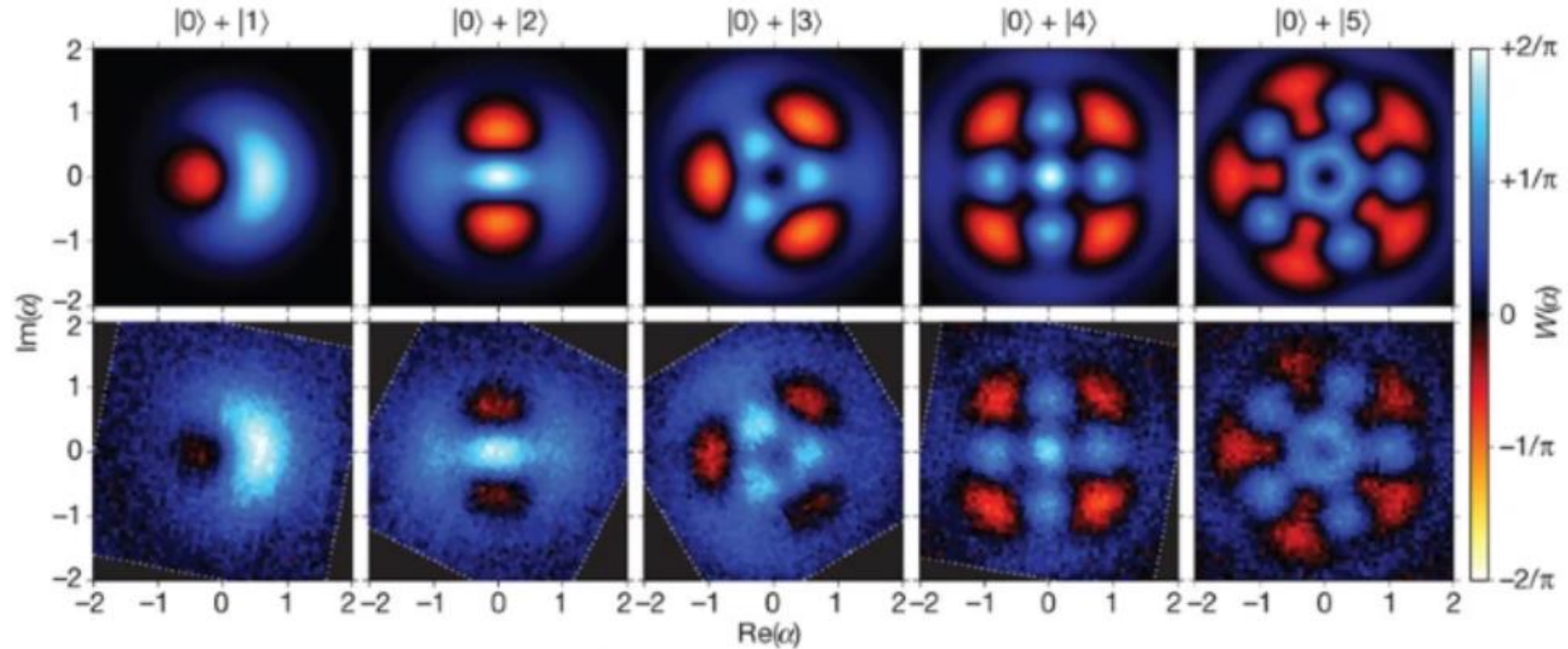
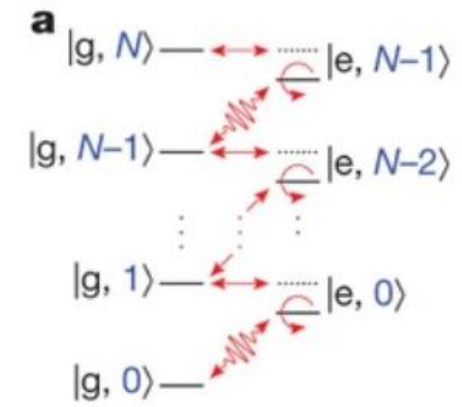


Synthesizing arbitrary quantum states in a superconducting resonator

[Max Hofheinz](#), [H. Wang](#), [M. Ansmann](#), [Radoslaw C. Bialczak](#), [Erik Lucero](#), [M. Neeley](#), [A. D. O'Connell](#),

[D. Sank](#), [J. Wenner](#), [John M. Martinis](#) & [A. N. Cleland](#) 

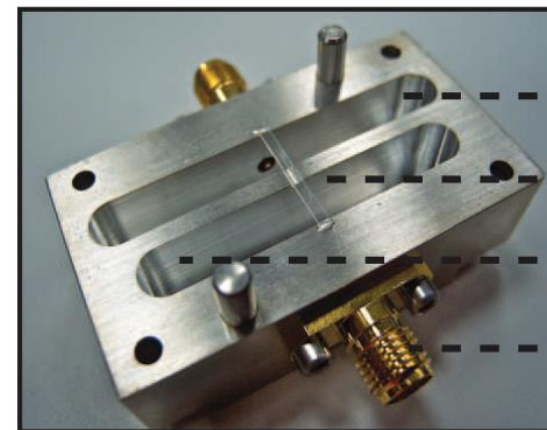
[Nature](#) **459**, 546–549 (2009) | [Cite this article](#)



Deterministically Encoding Quantum Information Using 100-Photon Schrödinger Cat States

Brian Vlastakis,^{1*} Gerhard Kirchmair,^{1†} Zaki Leghtas,^{1,2} Simon E. Nigg,^{1‡} Luigi Frunzio,¹
S. M. Girvin,¹ Mazyar Mirrahimi,^{1,2} M. H. Devoret,¹ R. J. Schoelkopf¹

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- - - cavity 1
- - - transmon qubit
- - - cavity 2
- - - cavity coupler

