Erratum: Strongly Interacting Photons in a Nonlinear Cavity [Phys. Rev. Lett. 79, 1467 (1997)]

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As pointed out to us by Grangier, Walls, and Gheri [1], the adiabatic elimination of the atomic degrees of freedom in our original proposal requires

$$\frac{|g_{13}|^2}{\Omega_c^2} n_{\text{atom}} < 1 . \tag{1}$$

We note that this condition is more restrictive than the one given in our Letter and puts a stringent limit on the required cavity parameters. The physics behind the requirement of Eq. (1) is the large (normal) dispersion $d\ \mathrm{Re}[\chi^{(1)}(\omega)]/d\omega$ of the atomic medium. If Eq. (1) is not satisfied, frequency components at $\sim\omega_{\text{cav}} \pm \Gamma_{\text{cav}}$ acquire large $\mathrm{Re}[\chi^{(1)}]$ that move these frequency components out of cavity resonance. In fact, it has been shown that the presence of a highly dispersive media strongly modifies the cavity transmission, resulting in ultranarrow resonances [2].

[1] P. Grangier, D. Walls, and K. Gheri, this issue, Phys. Rev. Lett. **81**, 2833 (1998).
[2] M. D. Lukin, M. Fleischauer, and M. O. Scully, Opt. Lett. **23**, 295 (1998).

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