Equation (9) of our Letter was printed incorrectly and should read

$$I_{hom}(t) = 2\kappa \eta \, \text{Tr}[\rho(t)y] + \sqrt{2\kappa \eta} \, \xi(t).$$  \hspace{1cm} (9)

The second paragraph on page 4623 was likewise incorrectly reproduced in the published version and should read as follows:

To estimate $E[\Delta^2]$, we use the fact that the system stays close to $|\psi_{fix}^{\pm}\rangle$ most of the time. Suppose it starts in the state $|\psi_{+}^{fix}\rangle$ so that $y_+ = y_{fix}^{\pm} = -g/\kappa$. Then the spontaneous emission generates probability at a rate $\gamma_\perp/2$ for the atom to be in the state $\{-\}$. The associated field $y_-$ will drift towards $y_{fix}^{\pm}$ and for short times $t \ll \kappa^{-1}$ can be approximated by $y_-(t) = -g/\kappa + 2gt$. This will persist only until the photocurrent signal it would have generated can be distinguished reliably from the photocurrent signal generated by the field $y_+ = y_{fix}^{\pm}$. The integrated difference between the two signals over a time $\tau$ is, from Eq. (9), $\kappa \eta g \tau^2$. The rms noise in the signal is, again from Eq. (9), $\sqrt{\kappa \eta \tau}$. According to our explanation for the retroactive quantum jumps, the atom must decide which state to be in at the time $\tau$ such that the signal and noise are comparable, $\tau \sim (\kappa \eta g^2)^{-1/3}$. It will then (most likely) decide to remain in the state $\{+\}$, and the process “repeats” (it is actually continuous). The average of $(y_+ - y_-)^2$ up to time $\tau$ is easily evaluated to be $\sim (g/\kappa \eta)^{2/3}$. Substituting this into Eq. (16) gives

$$\frac{1}{E[S^{-1}]} \sim \frac{\gamma_\perp}{2g^{2/3}(\kappa \eta)^{1/3}}.$$  \hspace{1cm} (17)

This formula is valid for $g \eta^{1/2} \geq \kappa$ and $\gamma_\perp \ll g^{2/3}(\kappa \eta)^{1/3}$. 