Zero Tempurature Photon Number 0.5 $\begin{array}{c} N_{spins} = 1 \\ N_{spins} = 10 \\ N_{spins} = 50 \\ N_{spins} = 100 \\ N_{spins} = 250 \\ N_{spins} = 500 \\ N_{spins} = \infty \end{array}$ 0.4 0.3 $\left\langle a^{\dagger}a\right\rangle _{0}$ 0.2 0.1 0.0 0.6 8.0 1.0 1.2 1.4