

PHYS 481/690

Problem set # 2 (due September 21)
Each problem is 10 points.

Problems from Gerry& Knight: 7.5; 7.9 (no Wigner function calculations); 6.2; 6.3; 6.4; 6.6

A1 Calculate the expectation value of the photon number operator $\hat{a}^\dagger \hat{a}$ in the squeezed state $\hat{S}(\xi)|\alpha\rangle$. Note that the photon number increases with increased squeezing.