Harmonic Trap
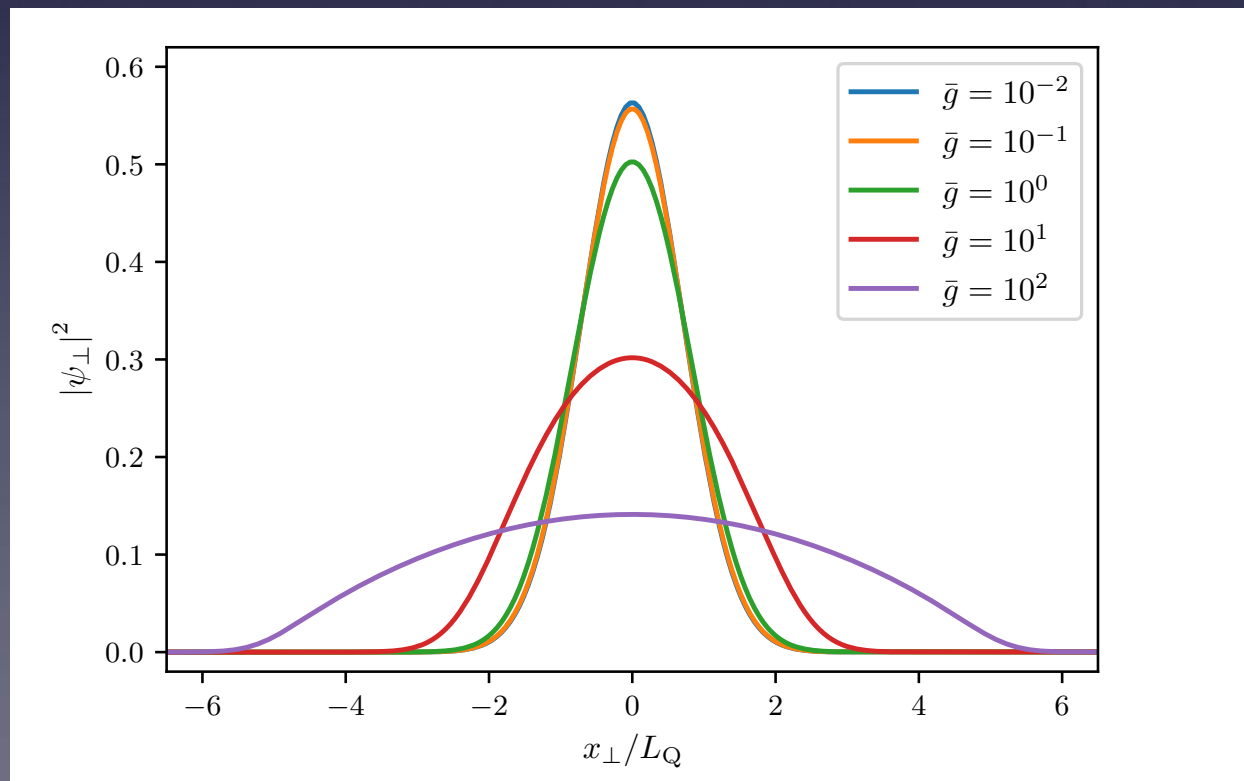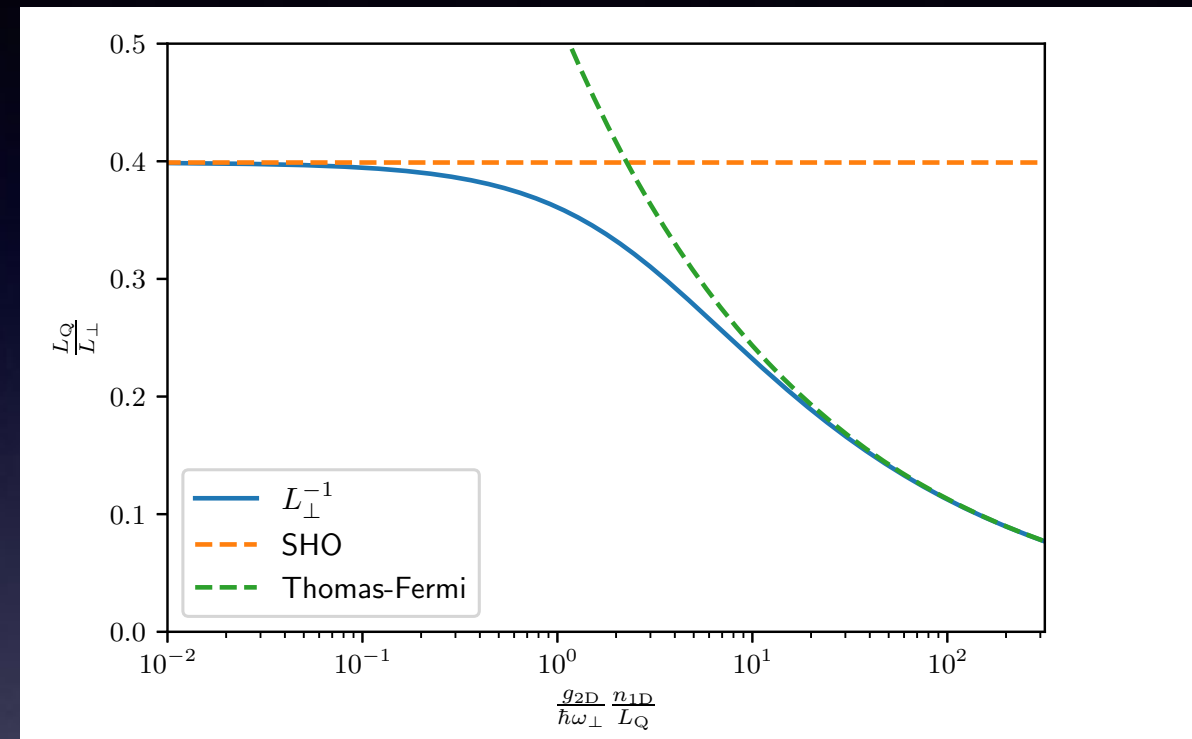
$$V(x_\parallel, x_\perp) = \frac{1}{2} m \omega_\perp^2 x_\perp^2 \qquad L_Q^2 = \frac{\hbar}{m \omega_\perp}$$

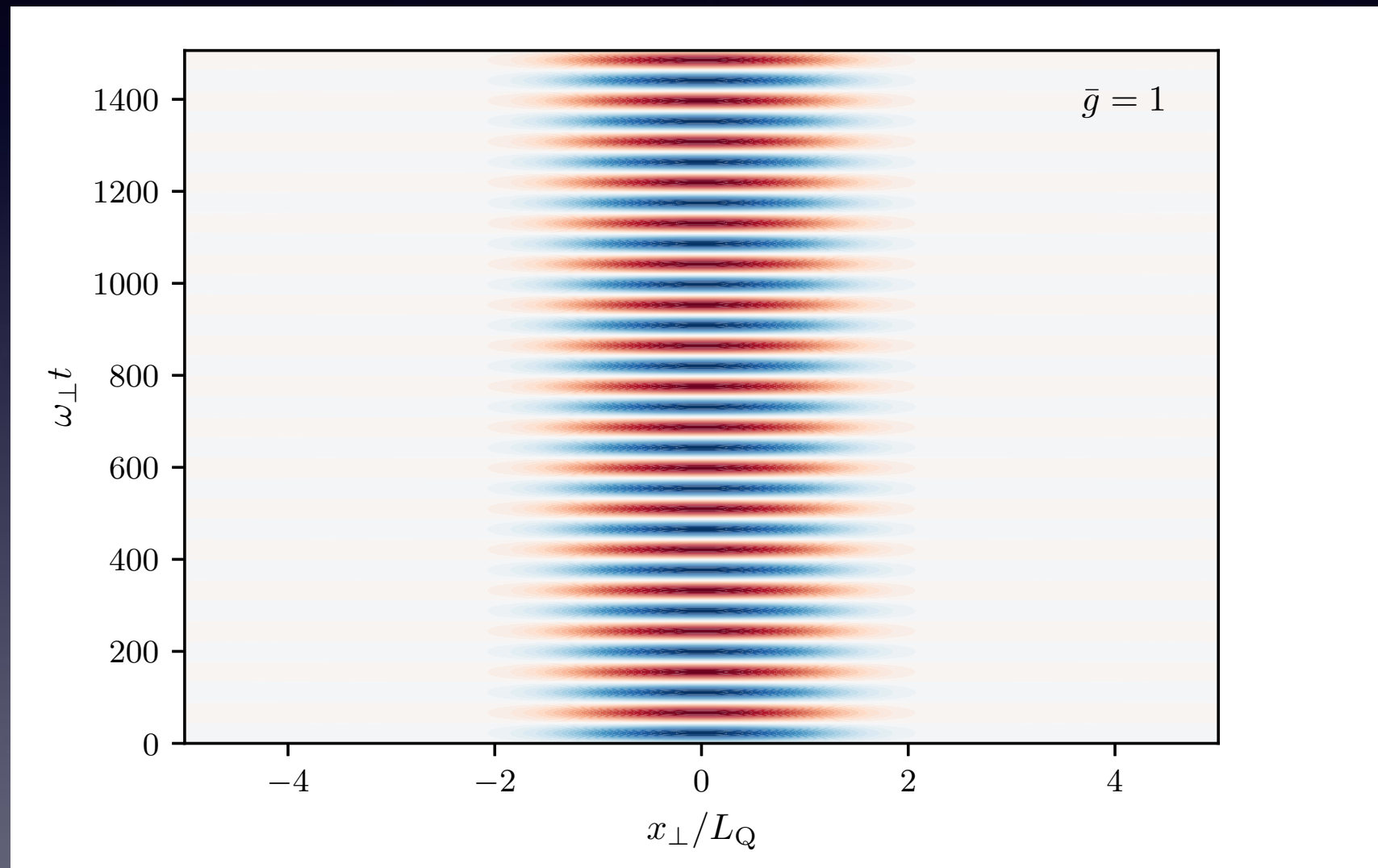$$\mu \psi_\perp = \left[-\frac{\hbar^2}{2m} \nabla_\perp^2 + V_{\text{trap}}(x_\perp) + g^D \left| \psi_\perp \right|^2 \right] \psi_\perp$$

$$\bar{g} \sim \frac{L_Q^2}{L_{\text{heal}}^2} \sim \frac{1}{\tilde{\nu}} \frac{m_\varphi^2 L_Q^2}{c_s^2}$$

Background Evolution

Evolution matches dimensionally reduced simulations

Is trapping maintained with parametric resonance?