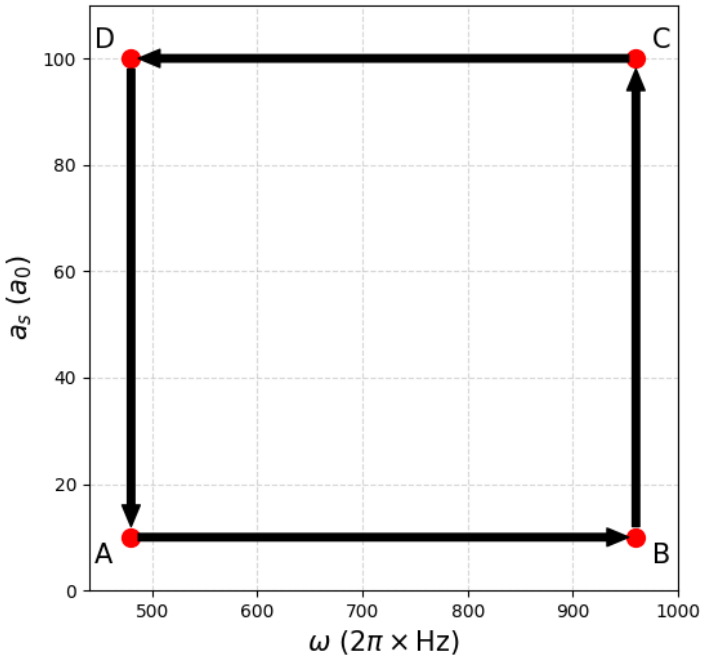
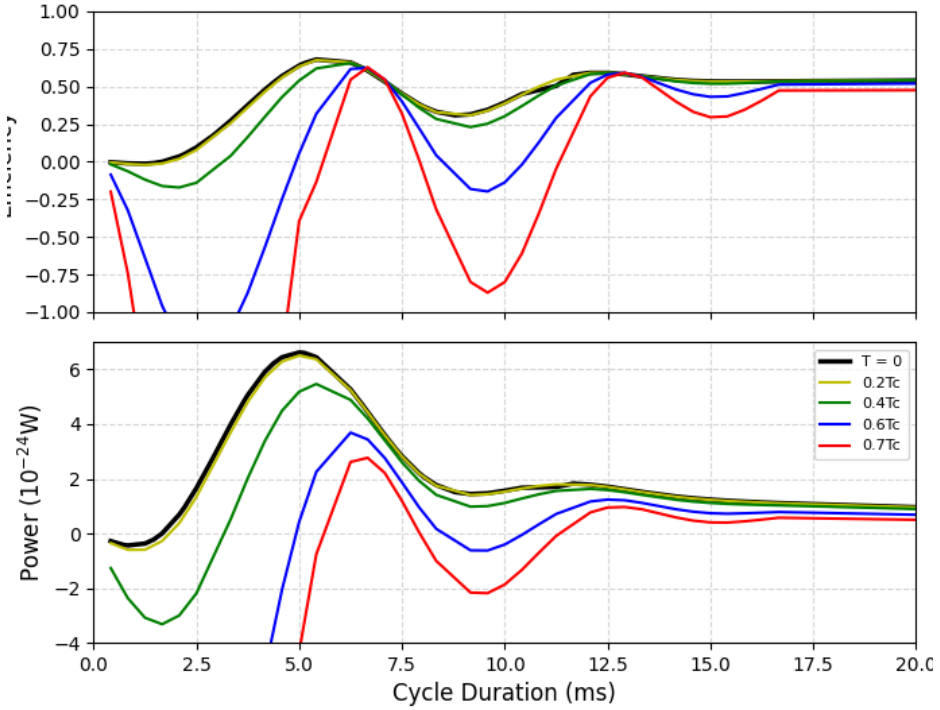
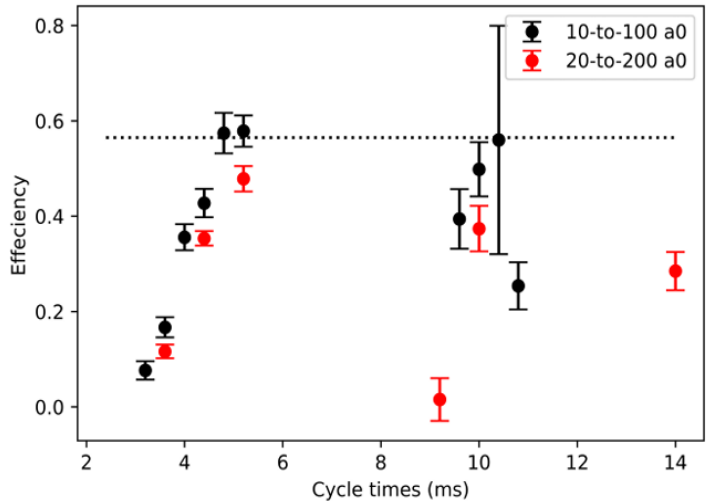
Performance and Dynamics of BEC as a Working Fluid

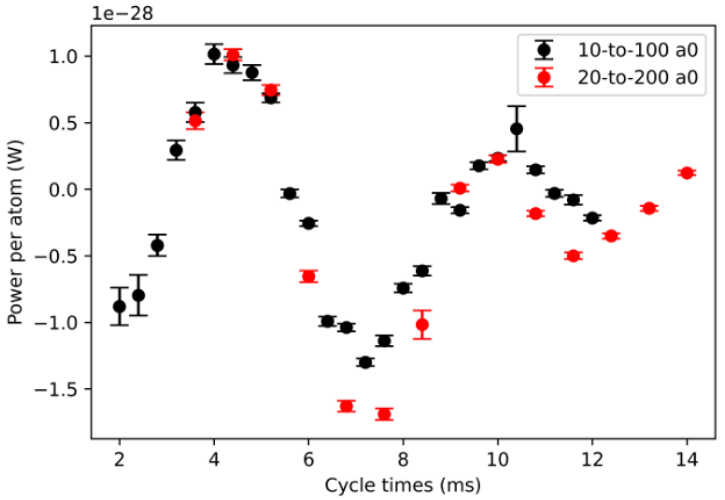
$$i\hbar\partial_t\psi = \left[\frac{-\hbar^2}{2m}\nabla^2 + g[n_c(r,t) + 2\tilde{n}(r,t)] + V(r,t) - iR(r,t)\right]\psi$$

$$\frac{\partial f}{\partial t} + \frac{\boldsymbol{p}}{m}\cdot\nabla_r f - \left(\nabla_r U_{eff}\right)\cdot\left(\nabla_p f\right) = C_{12}[f,\psi] + C_{22}[f]$$









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Paper in preparation.
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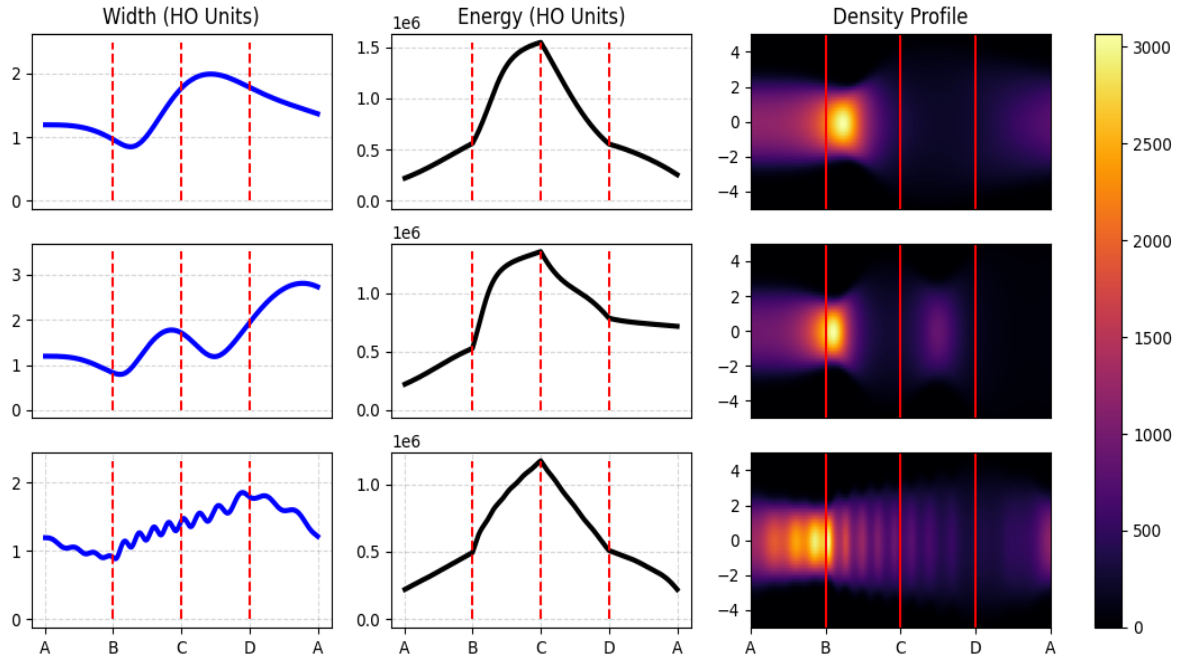

Other work under way.
In collaboration with: Leandro Machado, Monica Caracanhas, Vanderlei Bagnato.