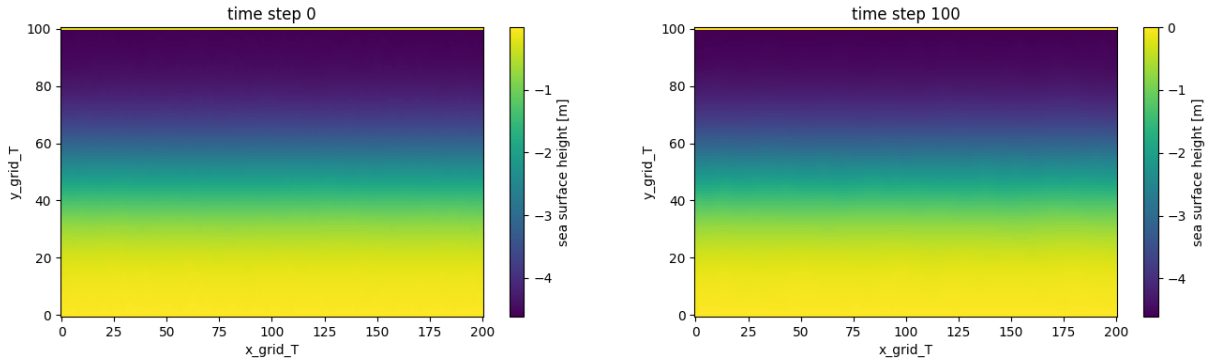
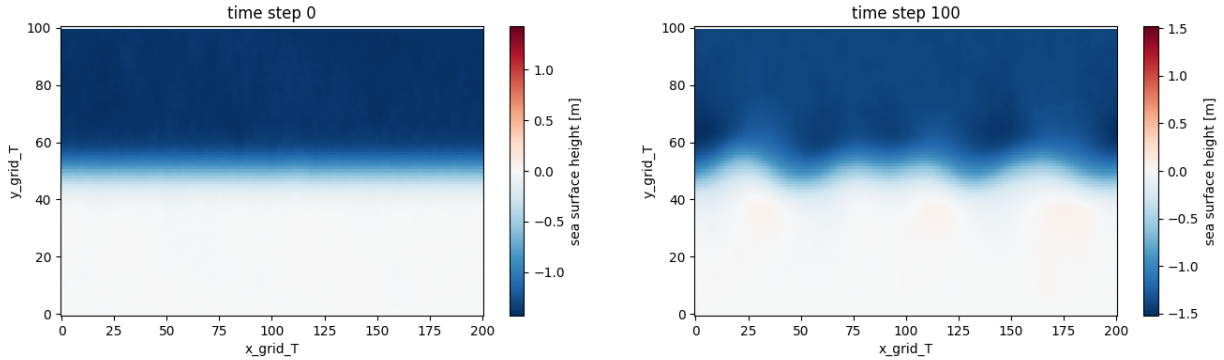
Jet Stability

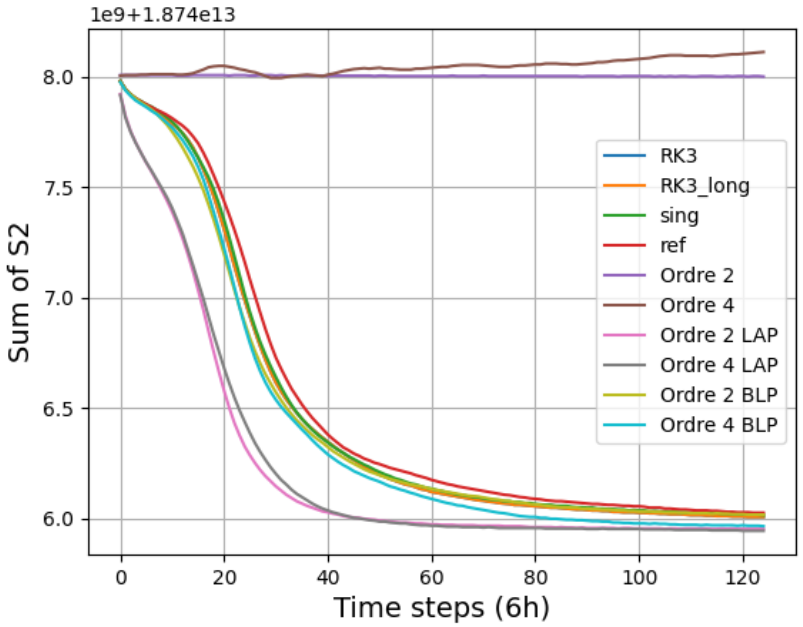
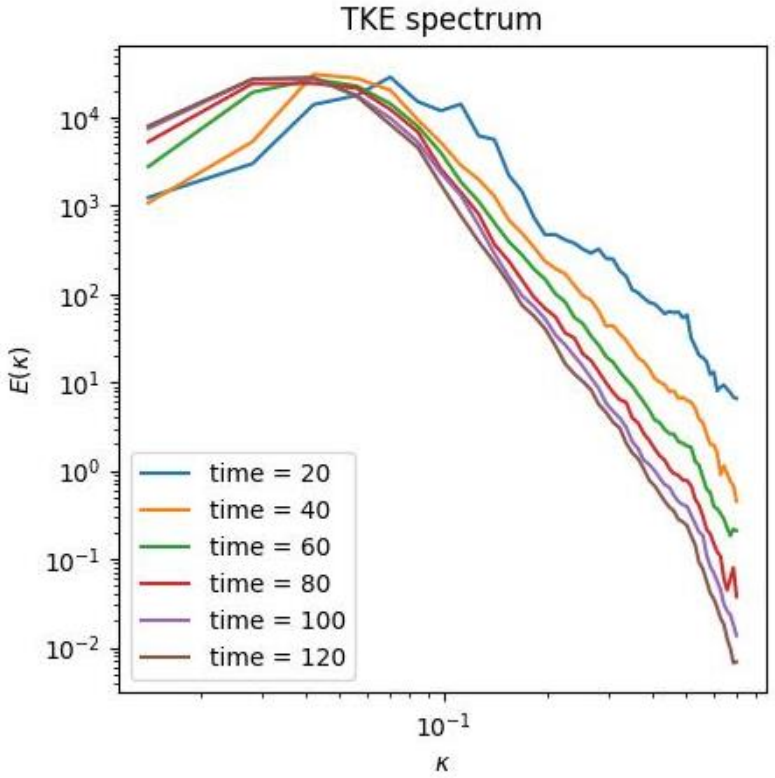
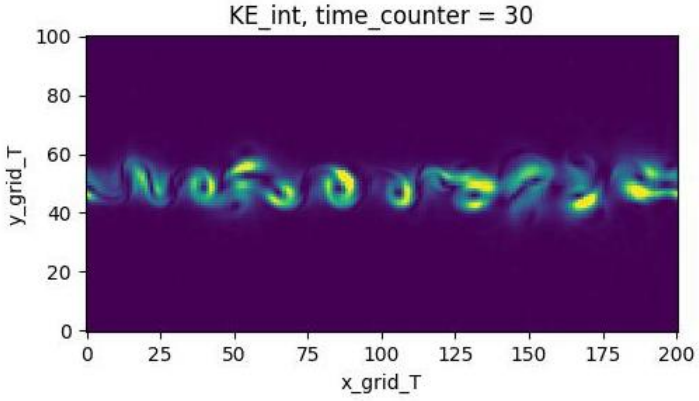
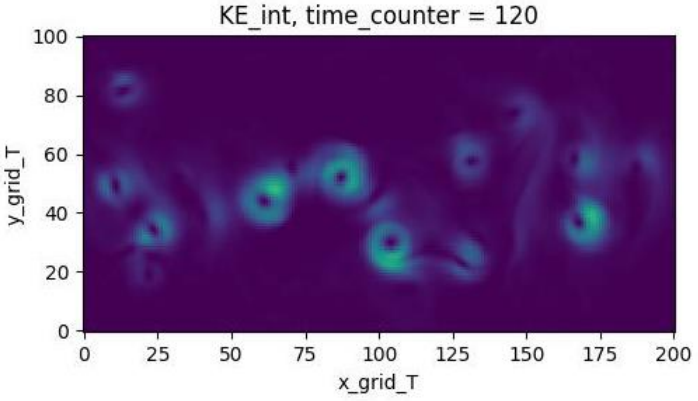
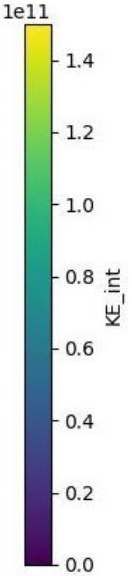


$\lambda = 200$



$\lambda = 60$

If $U''(y) - \beta$ changes sign then flow unstable

Guassian jet $U(y) = u_0 e^{-y^2/2\lambda^2}$ stable if $\lambda > \sqrt{\frac{2}{\beta} u_0 e^{-3/2}} \approx 160km.$

Energy Cascade