Perturbation growth/decay rates for $\ell = 1.1$, $r_h = 0.0925$

Inner (dashed) and Outer (solid) shocks

Amplitude growth $\log \frac{\max \tilde{u}(t)}{\max \tilde{u}(0)}$

- $\epsilon = 1 \times 10^{-4}$
- $\epsilon = 5 \times 10^{-5}$
- $\epsilon = 2 \times 10^{-5}$
- $\epsilon = 1 \times 10^{-5}$
- $\exp(\lambda_0 t)$

Inner $\lambda_0 = +0.6823$

Outer $\lambda_0 = -0.2324$

Time t

(a)

Growth/decay rate error

Growth rate error $|\lambda_{emp} - \lambda_0|$

- Inner shock
- Outer shock
- $1000\,\epsilon$
- $50\,\epsilon$

ϵ

(b)