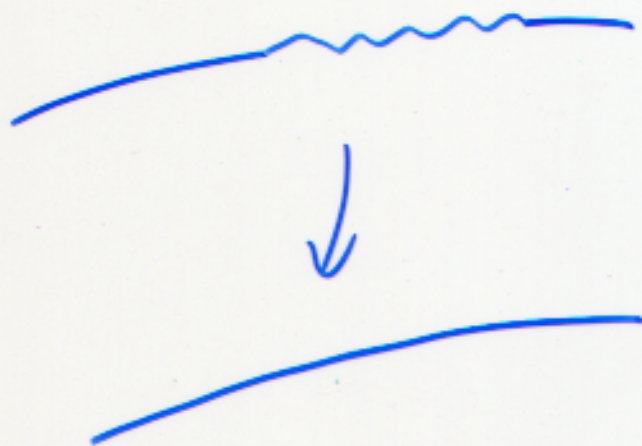


D. Parabolic: small-amplitude, short-wavelength metric perturbations decay



locally

$$g_{\mu\nu} = \delta_{\mu\nu} + h_{\mu\nu}$$

$$\frac{\partial h_{\mu\nu}}{\partial \lambda} = \nabla^2 h_{\mu\nu} + 2 \partial_{(\mu} v_{\nu)} + \mathcal{O}(h^2)$$

$v_\nu \equiv \frac{1}{2} \partial_\nu h_{\mu\mu} - \partial_\mu h_{\mu\nu}$

heat eqn + small diffeo + non-linearities

(N.B.: fails in Lorentzian signature!)