

$$\Delta_{\text{rel}} = \frac{1}{\mathcal{H}} (V_r' + \mathcal{H} V_r + \partial_r \Psi) + \left( \frac{5s - 2}{r\mathcal{H}} - 5s - \frac{\mathcal{H}'}{\mathcal{H}^2} \right) V_r$$