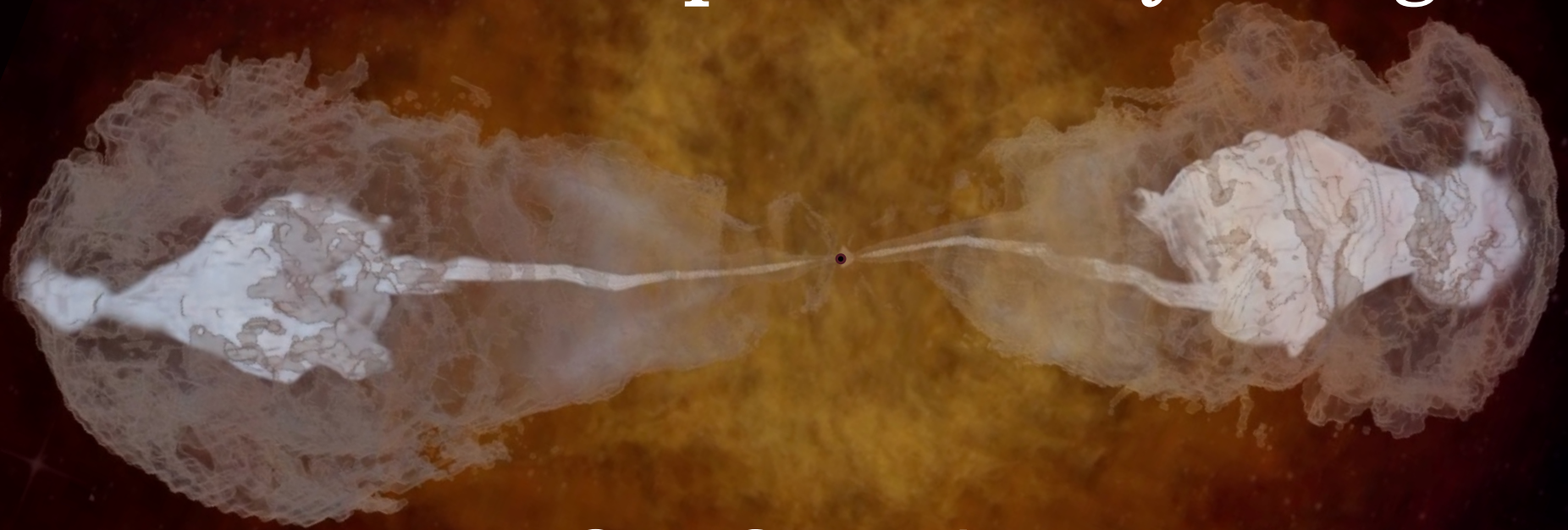


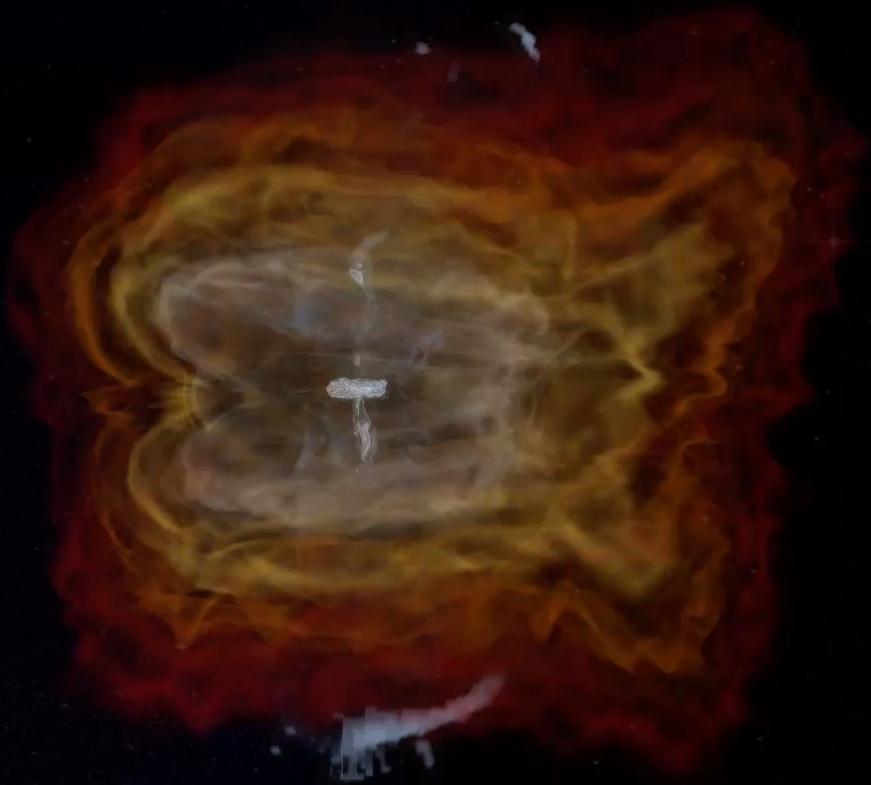
A Unified Picture of Short and Long GRBs from Compact Binary Mergers



Ore Gottlieb

CCA, Flatiron Institute

Jet launching



$$P_j = \dot{M} c^2 \eta_a(a) \eta_\phi(\phi)$$

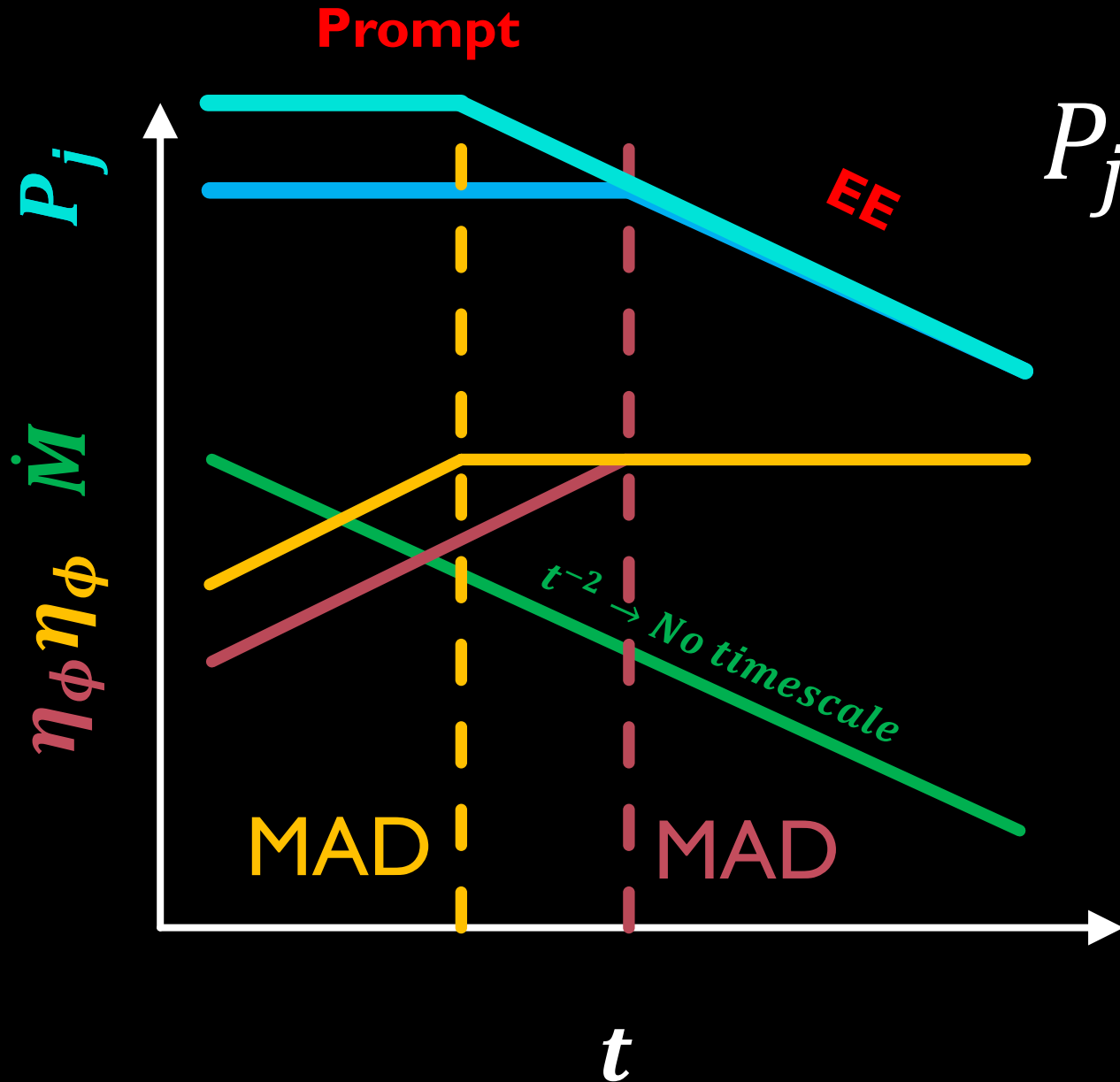
$\dot{M}$ – Mass accretion rate

η_a – Spin efficiency

η_ϕ – Field efficiency

Gottlieb et al. 2023d

Compact binary GRBs (cbGRBs)



$$P_j = \dot{M} c^2 \eta_a(a) \eta_\phi(\phi)$$

$$\eta_a(a) \approx 1$$

$$\rightarrow P_j \sim \dot{M} \eta_\phi$$

$$\dot{M} \sim \frac{r_h}{r_{disk}} \frac{M}{t_{vis}} \sim t^{-2}$$

$$P_j \sim \text{const.}$$

$$\rightarrow \eta_\phi \sim P_j \dot{M}^{-1} \sim t^2$$

