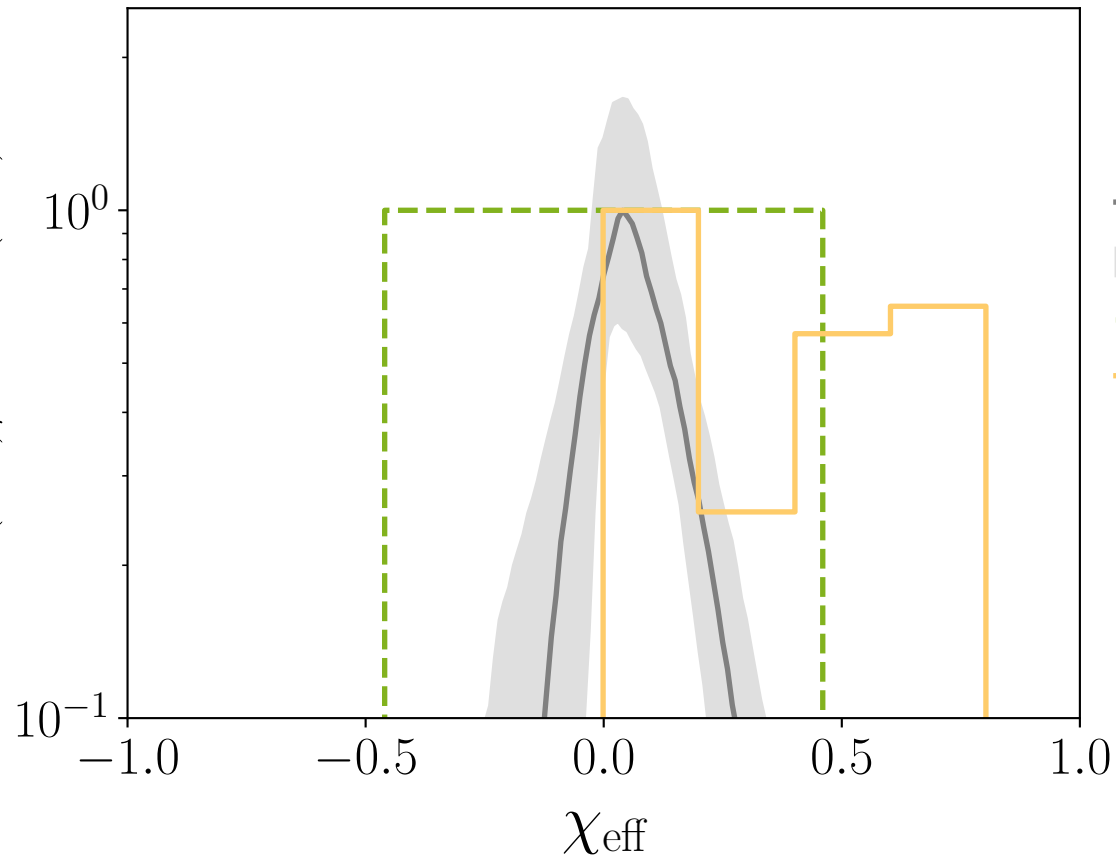


$\mathcal{R}(\chi_{\text{eff}})/\max \mathcal{R}(\chi_{\text{eff}})$



- LIGO/Virgo (M1,M2 cut)
- LIGO/Virgo (M1,M2 cut)
- - Hierarchical: Antonini+ 2025
- Pop III: Kinugawa 2021