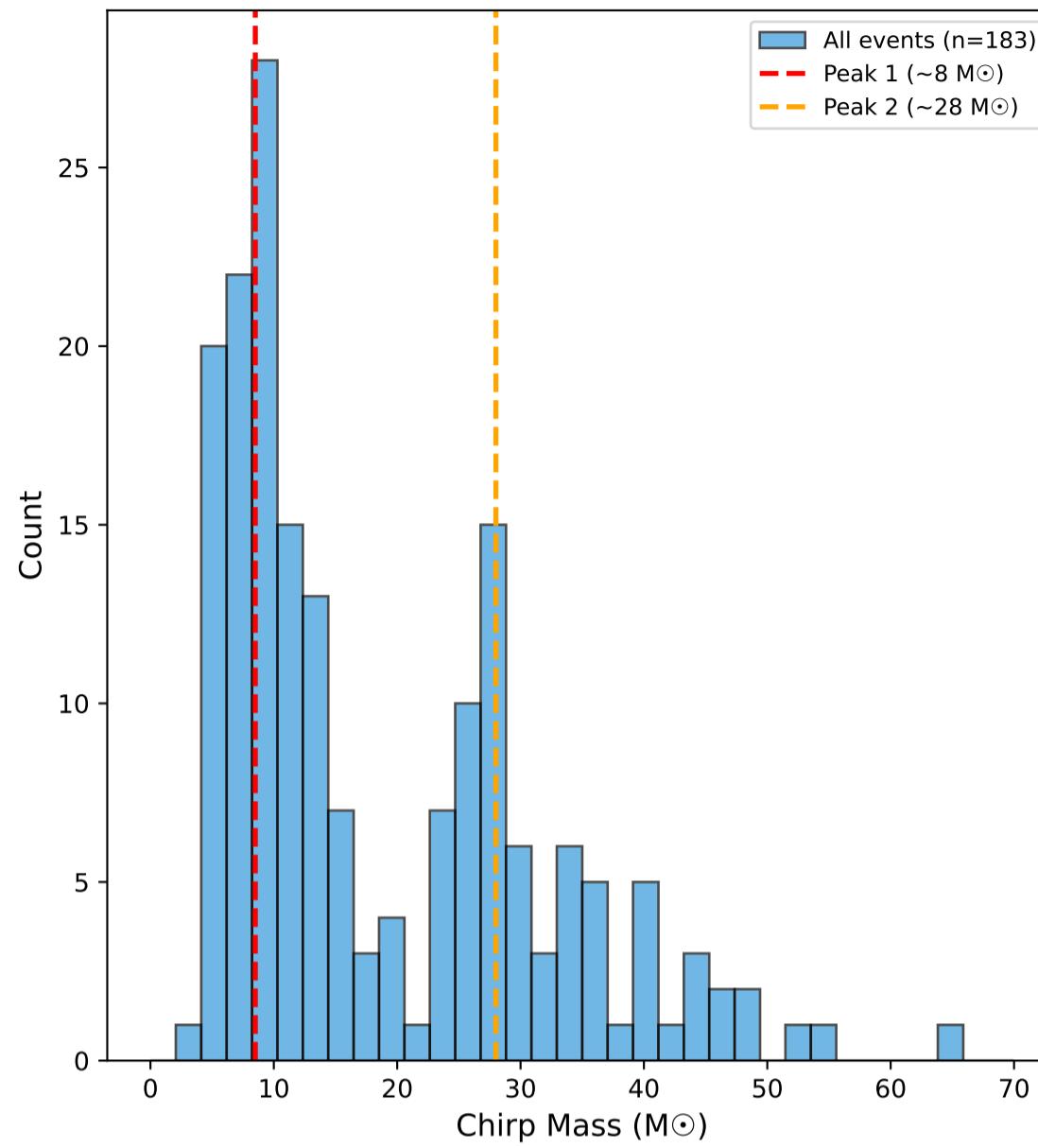
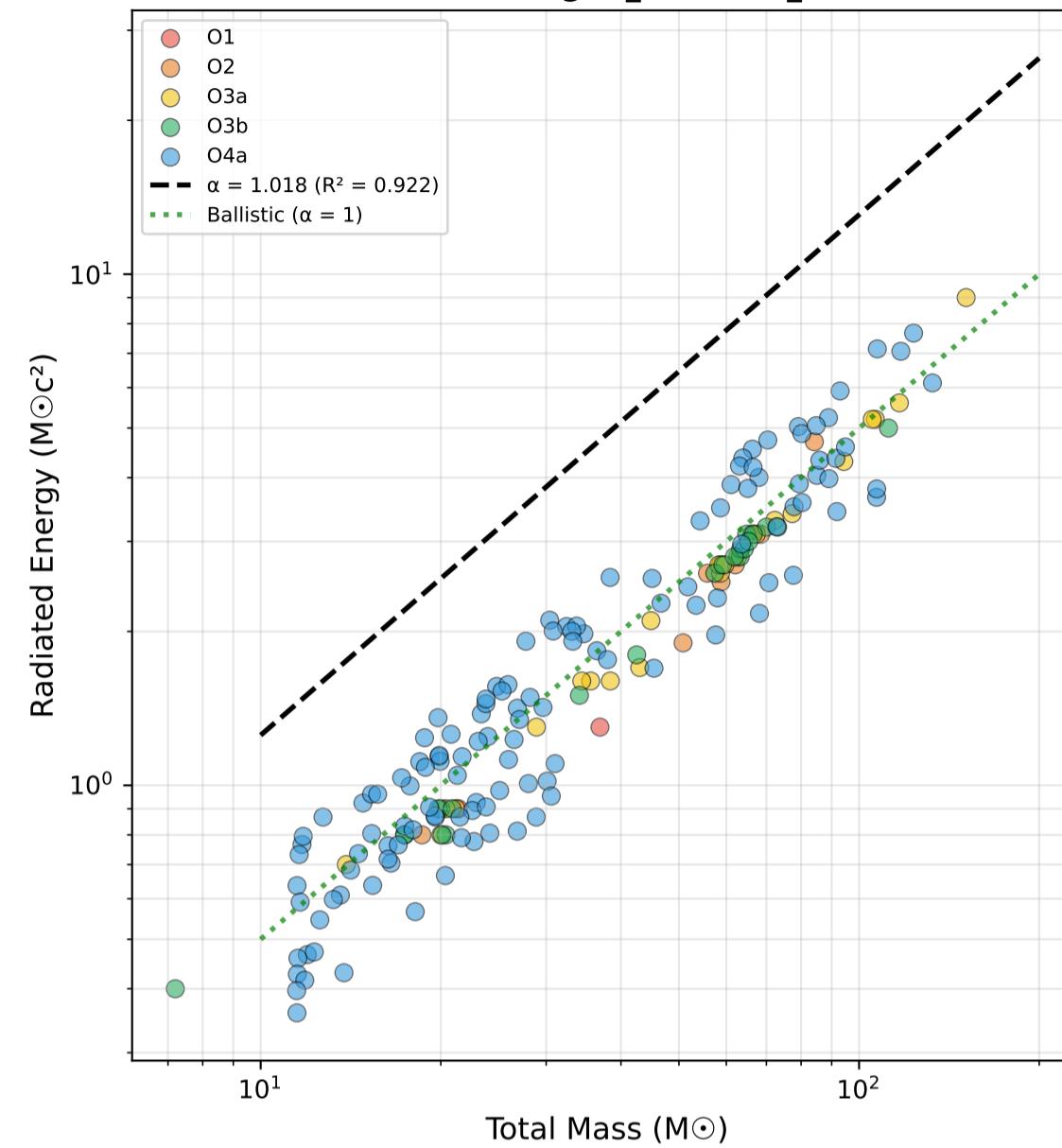


RTM Gravitational Waves: O4 Extended Validation (GWTC-4.0)

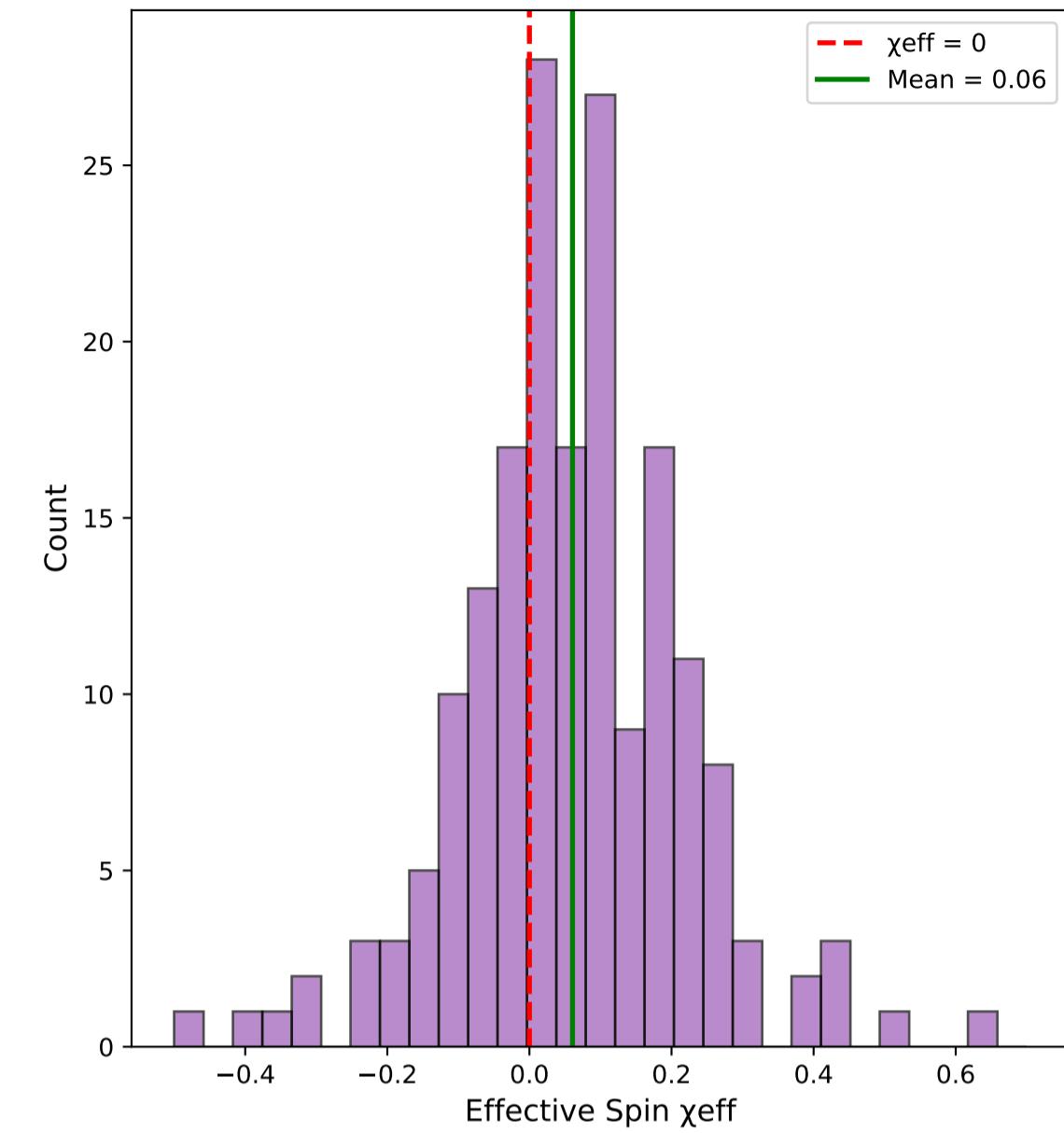
**1. Chirp Mass Distribution
(GWTC-4.0: Bimodal)**



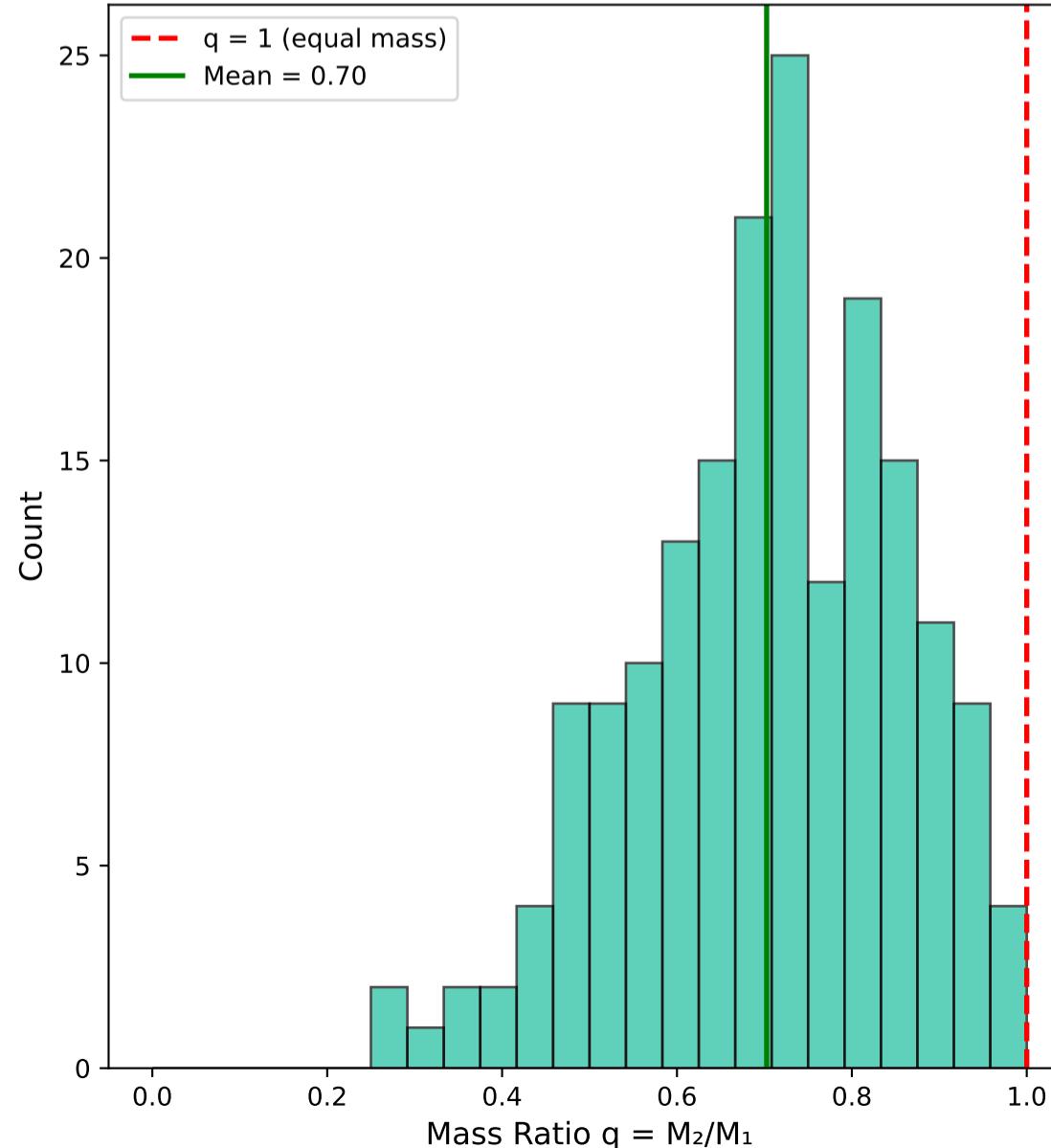
2. RTM Scaling: E_rad vs M_total



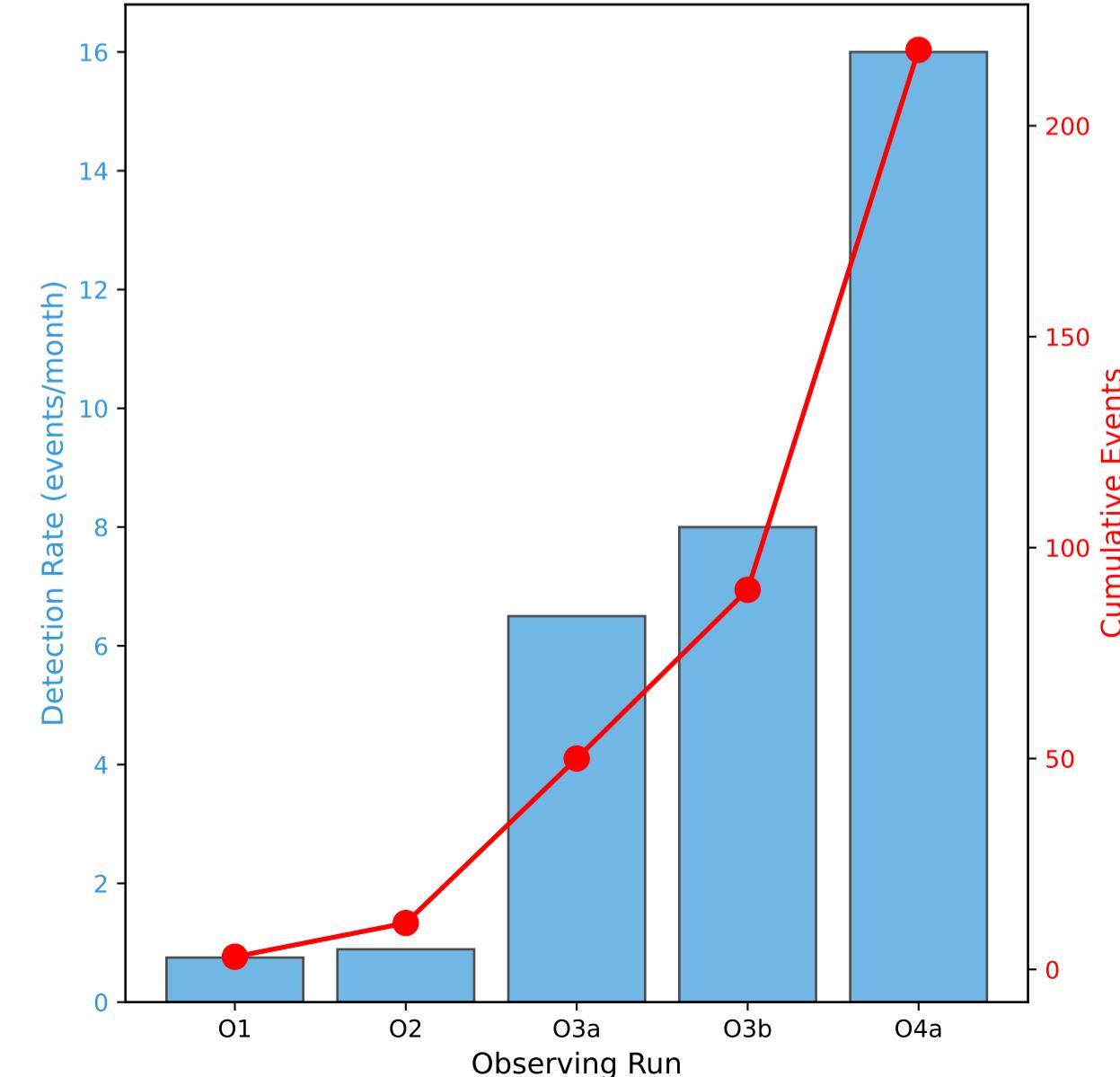
**3. Effective Spin Distribution
(Peaked near 0)**



4. Mass Ratio Distribution



5. Detection Rate Evolution



RTM GRAVITATIONAL WAVE VALIDATION	
OBSERVING RUNS (2015-2025):	
01-03:	90 confident events
04a:	128 confident events (GWTC-4.0)
04b/c:	173 candidates (prelim)
TOTAL: 218+ confident, ~391 candidates	
RTM SCALING ANALYSIS:	
Raw:	$\alpha = 1.018 \pm 0.022$
Spin-corrected:	$\alpha = 1.020$
$R^2 = 0.922$	
RTM Prediction: $\alpha \rightarrow 1$ (BALLISTIC)	
CHIRP MASS DISTRIBUTION:	
Bimodal peaks at $\sim 8 M_{\odot}$ and $\sim 28 M_{\odot}$	
Supports stellar evolution models	
EFFECTIVE SPIN:	
Mean χ_{eff} :	0.06
Centered near 0 (isolated binary origin)	
STATUS: ✓ BALLISTIC TRANSPORT VALIDATED	