

## Non-Standard Approach to the Statistics of Cosmological Gamma-Ray Bursts: The Spatial and Luminosity Distribution Functions

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We subsample gamma-ray bursts (GRBs) in the BATSE 4B catalog and investigate their statistical properties. We use the most updated star-formation rate (SFR) as a density distribution function of GRBs, and show how the density distribution affect the  $\langle V/V_{\max} \rangle$  statistic of each subsample. The effect of luminosity distribution, especially due to beaming, is also tested with SFR.