

The 400d X-ray Survey: Weak Lensing Mass Estimates For Distant  
X-Ray Clusters Of Galaxies

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Abstract:

Evolution in the mass function of galaxy clusters sensitively traces cosmological structure formation. The number density of massive clusters as a function of redshift can be used to constrain cosmological parameters. We aim at deriving a robust mass function by a detailed comparison of cluster masses deduced from observations of their X-ray and weak lensing signals. Based on the recent 400d survey of serendipitous ROSAT detections, we therefore use a complete X-ray flux- and luminosity-limited subsample of clusters at  $0.35 < z < 0.90$  for which we conduct a weak lensing follow-up survey. We report the results of our weak lensing analysis based on observations obtained with the MMT Megacam camera.