

[GC-15] **The Submillimeter Galaxy Detection in the MBM12**

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AzTEC is a sensitive submillimeter-wave instruments operating at 1.1mm. We present the analysis of the first 1.1mm detections of submillimeter galaxy (SMG) candidates in the MBM12 region. Deep submillimeter survey can provide a probe for the detailed study of galaxies that are almost independent of luminosity for a wide redshift range  $1 < z < 5$ . Through determining the false detection rate (FDR), we confirm six AzTEC sources in this region. Out of the six sunbmillimeter sources ( $S_{1100} > 40$  mJy) in the MBM12, two detections are known as pre-main sequence stars and two other AzTEC detections are identified as radio sources. The rest of AzTEC sources are unknown. We use far-infrared (FIR) and mid-infrared (MIR) observations to investigate 70  $\mu$ m and 24  $\mu$ m properties of SMG candidates in the MBM12 region and find that two AzTEC sources have secure emissions at 24  $\mu$ m. Soure stacking analysis has been applied to the AzTEC observations of the MBM12 in order to detect generic point sources at MIPS 24  $\mu$ m and 70  $\mu$ m at the sensitivity limit of the Spitzer telescope.

[GC-16] **Overdensities of galaxies at  $z \sim 3.7$  in the CDF-S**

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We report the discovery of two overdensities of galaxies at  $z \sim 3.7$  in the Chandra Deep Field South (CDF-S) using multi-wavelength data. These overdensities are identified from the H-K color-selected sample, the photometric redshift sample, and the sample based on the B-band dropout.

One over-density at  $z \sim 3.7$  is identified in the proximity of 2 AGNs at  $z = 3.66$  and  $3.7$  at 5-sigma level significance. The other over-density at  $z \sim 3.7$  is identified around five  $z = 3.7$  galaxies with spectroscopic redshifts at 4-sigma significance level. The line of sight velocity dispersion of this over-density is found to be  $\sigma_v = 580$  km/sec. SED fitting to the member galaxies show that some of the galaxies associated with the over-dense regions have the mass greater than  $10^{11} M_{\text{sun}}$ . Our result suggests that the over-density of high redshift galaxies can be found in a blank field.