

[GC-24] Study of Galaxies and Star Formation with the AzTEC mm-wavelength Camera

Sungeun Kim^{1,2} and AzTEC Team^{2,3,4,5}

¹*Department of Astronomy and Space Science, Sejong University*

²*Department of Astronomy, University of Massachusetts, USA*

³*Department of Astronomy, Caltech, USA*

⁴*Astronomy Department, Cardiff University, UK*

⁵*Astronomy Department, Smith College, USA*

Ultraluminous galaxies at high-redshift emit a large fraction of the energy at submillimeter and millimeter

wavelengths. These so-called Submillimeter Galaxies (SMGs) seem to be progenitors of present-day

elliptical galaxies due to the expected high star formation rate (SFR). We use a new bolometer array camera,

AzTEC, utilizing 144 silicon nitride micromesh detectors. This instrument was developed as a facility instrument

on the Large Millimeter Telescope (LMT) and operates with a single bandpass centered at either 1.1, 1.4, or 2.1

mm (Wilson et al. 2008). We observed blank and biased fields in the sky with AzTEC installed on the James

Clerk Maxwell Telescope (JCMT) and searched for candidates of the SMGs. Multi-wavelength follow-up studies

of these galaxies suggest that these are massive young galaxies seen during their formation epoch with an

inferred star formation rate (SFR) exceeding 1000 Msun per year.