A07b AzTEC on ASTE Survey of Submillimeter Galaxies

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We have started an unprecedented survey of submillimeter galaxies (SMGs) using the 144 pixel bolometer camera AzTEC on the Atacama Submillimeter Telescope Experiment (ASTE). At the observing wavelength of 1100 μm, the angular resolution is not very high (28 arcsec), yet it enables us to make very wide (typically $12' \times 12'$ or wider) and deep (1 sigma noise levels of 0.5 - 1 mJy) images of known blank fields, over-density regions around high-z quasars, radio galaxies across a wide range of redshifts. The AzTEC camera was installed and commissioned during May to June 2007, and science observations have been done from Mid June to Mid October 2007. Thanks to the excellent stability of the AzTEC system and well established data analysis pipeline, we have already obtained many deep 1100 μm continuum images of the distant universe, and numerous new SMGs have already been found through these data. Further observations are also planned over 4 months during 2008. Eventually, our survey will produce more than 30 - 40 deep and wide field images. We will present some highlights of our on-going projects, including (1) SSA 22 regions, (2) GOODS-S region, (3) South Equliptic Pole (SEP) low cirrus regions, and (4) high-z overdensity regions. Collaborations with MOIRCS/SUBARU and/or AKARI will be essential for all these projects.