

V104a **DESHIMA: Recent progress on the commissioning observations**

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We are developing an ultra-wideband imaging spectrometer at millimeter/submillimeter wavelengths, DESHIMA (DEep Spectroscopic HIgh-redshift MApper), employing new superconducting millimeter wave electronics "on-chip filter bank" and microwave kinetic inductance detectors (MKIDs). The summary of prototype DESHIMA is given by T. Taniguchi in this meeting.

In this talk, we are going to report the progress on the commissioning observations with ASTE after our previous report (Taniguchi; ASJ meeting 2018 autumn). New results are summarized as follows. (1) The beam pattern is measured by observing Mars. We obtain a beamsize of $\theta = 31.4'' \times 22.8''$ and a main beam efficiency of $\eta_{MB} = 0.34$. These are predictable from the system design. (2) Deep and broadband spectra of IRC+10216 and VV 114 are constructed. The shapes of the spectra are consistent with those taken by heterodyne receivers. We evaluate the noise level and NEFD at each MKID from the spectra and find that those agree well with the sensitivity estimated from the system design. (3) We achieve to make wide-field maps of several molecular lines and continuum toward Orion and NGC 253.