

Observation campaign for recent active comets at the Korea Astronomy and Space  
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We present the preliminary results of photometric and spectroscopic observations of recent active comets, such as C/2012 S1 (ISON), C/2013 R1 (Lovejoy), C/2012 X1 (LINEAR), C/2012 K1 (PANSTARRS), C/2013 V1 (Boattini), and 290P/Jager using KASI facilities. Multi-band observations from optical to millimeter wavelengths can offer a unique opportunity in cometary science.

Observations of several recent active comets were conducted during 22 nights from October 2013 to March 2014. We used CCD cameras with narrow-band filter sets of C2 (513 nm) and C3 (406 nm) at the Lemmonsan Optical Astronomical Observatory (LOAO) 1.0-m telescope in Arizona, USA, and near-IR photometric observations at J, H, and K bands (1.252, 1.633, and 2.143  $\mu\text{m}$ , respectively) using the Bohyunsan Optical Astronomy Observatory (BOAO) 1.8-m telescope on Mt. Bohyun, Korea. We also carried out spectroscopic observations using (Korea VLBI Network) the KVN Single Dish 21-m telescope at the Yonsei site at the frequencies of 86 and 129 GHz.

With the KASINICS (KASI Near-Infrared Camera System) and the narrow-band filter observations at BOAO and LOAO, respectively, it is possible to estimate the change in the characteristics of the cometary comae as a function of the heliocentric distance. Also, the gas production rate will be discussed for C<sub>2</sub>, C<sub>3</sub>, HCN, HNC, and H<sub>2</sub>CO.