

[SS-05] Retrieval of Emissivity and Temperature of the Local Interplanetary Dusts

Suk Minn Kwon¹, Jeonghyun Pyo², Seung Soo Hong², Munetaka Ueno^{3,4}, Masateru Ishiguro⁵, Fumihiko Usui⁴, Takafumi Ootsubo⁴ and AKARI IRC Team

¹*Department of Science Education, Kangwon National University,*

²*Department of Physics and Astronomy, Seoul National University*

³*Graduate School of Arts and Sciences, University of Tokyo, JAPAN*

⁴*Institute of Space and Astronautical Science, JAXA, JAPAN*

⁵*National Astronomical Observatory of Japan, PAPAN*

We analyzed AKARI IRC pointing observations(IRC02) which were carried out at around perihelion and aphelion positions along the ecliptic with both NIR/MIR-S and MIR-L. By applying Lambda-differentiation method, we retrieved mean volume emissivity of the local interplanetary dusts(IPDs) at 6 IR wavelengths. The IPD temperature and mean volumetric absorption cross-section were also determined after making color correction. This is the first direct measurement of mean volume emissivity and temperature of the local IPDs. We will also discuss heliocentric distance variations of temperature and emissivity which will give some constraints to the power-law exponents in the relation for the dust temperature and IPD density.

[SS-06] Photometric Observation of Jupiter Family Comet 17P/Holmes

Myung-Jin Kim^{1,2}, Young-Jun Choi², Yong-Ik Byun¹, Junichi Watanabe³, Reiko Furusho³, Masateru Ishiguro⁴, Yuki Sarugaku⁵, and Daisuke Kinoshita⁶

¹*Department of Astronomy, Yonsei University*

²*Korea Astronomy and Space Science Institute*

³*National Astronomical Observatory of Japan*

⁴*Department of Physics and Astronomy, Seoul National University*

⁵*Kiso Observatory, Institute of Astronomy, The University of Tokyo*

⁶*National Central University, Taiwan*

The periodic comet 17P/Holmes underwent an astonishing outburst on October 24, 2007; its apparent total brightness increased from $V \sim 17$ to $V \sim 2.5$ magnitude in just two days. After the outburst, 17P/Holmes may have lost some mass in the nucleus, and changed its rotation period and the color. We made time series observations for 17P/Holmes using the 1.8m telescope with 2K CCD at Bohyunsan Observatory, on the nights of 2009 January 19-22. Our observation reveals that 17P/Holmes is still active even at the heliocentric distance of about 4.22 AU. The coma and the dust tail could be obviously seen from a 300s exposed image. We will present the surface brightness profile of the coma from our co-added image, comparing with a stellar PSF, and will estimate the dust production rate calculated from the A_{fp} value. Also, the rotation of the nucleus derived from the brightness variation will be discussed.