

**[포SS-11] Small-scale structures in the dust cloud associated with
17P/Holmes outburst**

Ji-Beom Ham¹, Masateru Ishiguro¹,

²Daisuke Kuroda, ²Hideo Fukushima, ²Jun-ichi Watanabe

¹*Seoul National University*, ²*National Astronomical Observatory of Japan*

A short-period comet, 17P/Holmes, is one of the most outstanding comets because of the outbursts in 2007. It orbits the sun at the distance between 2.1AU and 5.2 AU with the orbital period of 6.9 year. On 2007 October 23, its brightness was suddenly increased by about a million times from 17 mag to 2.5 mag. We made observations of 17P/Holmes soon after the outburst on October 25, 27 and 28, using a 105cm telescope at the Ishigakijima Astronomical observatory, Japan. We took the images with V, R and I-band filters simultaneously. Total exposure times are 15 (October 25), 69 (October 27), and 37 (October 28) minute in each filter.

The composite images provide good signal to noise ratio and help us to recognize faint structures embedded in the dust cloud. We examined a sequence of images using a digital filter that enhances the small-scale structures. As the result of the data analysis, we confirm (1) the radial expanded structure coming out from the nucleus of comet, and (2) dozens of blobs that moved radially away from the nucleus. In this presentation, we introduce the observations and the data reductions, and consider the origins of these fine structure.
