auroral particle precipitations and/or Joule heatings in contrast to the 8−μm thermal emission. This finding indicates that the 10−μm hydrocarbon brightening is confined to low altitudes below the 1−μbar level eliminating the long−suggested possibility of direct auroral bombardments while opening a new possibility of dynamical origin for the 10−μm brightening.

[구 SS−02] A Monitoring Observation of Comet 17P/Holmes during 2014 Apparition

Yuna Kwon[1], Masateru Ishiguro[1], Hidekazu Hanayama[2], Daisuke Kuroda[3], Yuki Sarugaku[4], Yoonyoung Kim[1], Jeremie J. Vaubaillon[5], Jun Takahashi[6], and Jun−Ichi Watanabe[7]
[1]Department of Physics and Astronomy, Seoul National University, [2]Ishigakijima Astronomical Observatory, National Astronomical Observatory of Japan, [3]National Institute of Natural Sciences, Okayama Astrophysical Observatory, Japan, [4]Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency, Japan, [5]Observatoire de Paris, I.M.C.C.E., France, [6]Nishi−Harima Astronomical Observatory, Center for Astronomy, University of Hyogo, Japan, [7]National Astronomical Observatory, Japan

We performed a monitoring campaign of a Jupiter−Family comet 17P/Holmes, which underwent the dramatic outburst on 23.3 October 2007 at r_h=2.44AU, to investigate the secular change in activity and subsequent physical properties of the inner dust coma before and after the 2014 perihelion passage. The monitoring observation was carried out over two years: from May to July 2013, from July to November 2014, and January 2015 with ~weekly cadence. We conducted photometry monitoring in Rc band using four ground−based telescopes, which are the Ishigakijima Astronomical Observatory 105cm telescope, the Okayama Astrophysical Observatory 50cm telescope, the Nishi−Harima Astronomical Observatory 2m telescope, and the T30 51cm i−telescope, respectively. In order to examine the dust production rate, we put a constraint upon the physical distance from the center of the nucleus as rho=2500km and conducted aperture photometry. We found that the average absolute Rc magnitude over the period between July to November 2014 was mR(1,1,0)~12.29, which was approximately 1.5 magnitudes fainter than those of 2013 data. Accordingly, comet 17P/Holmes seemed to become dormant, although a minor eruption was detected on January 26, 2015. In this presentation, we will introduce our ongoing project for 17P/Holmes and discuss why the nucleus becomes dormant within one orbital period.

[구 SS−03] Multiple Outbursts of a Short−Periodic Comet 15P/Finlay

Masateru Ishiguro1, DaisukeK uroda2, Yoonyoung Kim1, Yuna Kwon1, Hidekazu Hanayama[3], Takeshi Miyaji[3], Satoshi Honda[4], Jun Takahashi[4], Jun-ichi Watanabe[5]
[1]Seoul National University, [2]Okayama Astrophysical Observatory, [3]Ishigakijima Astronomical Observatory, [4]University of Hyogo, [5]National Astronomical Observatory of Japan

15P/Finlay is one of the Jupiter−Family Comets that has long been known since the late 19 century. The comet maintains the perihelion around 1.0 AU over a century, without showing any prominent activities (i.e. fragmentation or eruption) since the discovery. According to reports in unpublished observations, the comet exhibited an outburst in the middle of 2014 December. We conducted a imaging observation of 15P/Finlay just after the report, from 2014 December 23 to 2015 February 18 using three telescopes (the Okayama Astrophysical Observatory 50−cm telescope, the Ishigakijima Astronomical Observatory 105−cm telescope, and the Nishi−Harima Astronomical Observatory 2−m telescope), which constitute a portion of the OISTER (an inter−university observation network in the optical and infrared wavelengths). As a result of the frequent observations, we witnesses the second outburst around UT 2015 January 16.

Such cometary outbursts draw the attention to researchers on ground that they could offer insight into the internal structure of comets, following a historical outburst occurred at 17P/Holmes on 2007 October 23. Although cometary outbursts have been often reported mostly in unpublished observations or unreviewed reports, it should be emphasized that there are not a sufficient number of astrophysical research which characterizes the physical properties by observing the aftermaths. This presentation provides a new observational result of 15P/Finlay outburst. Based on the morphological development of the dust cloud as well as the near−nuclear magnitude, we will derive the kinetic energy of the outburst. Finally we plan to compare the results of 15P/Finlay with those of analogical events at 17P/Holmes and P/2010 V1 (Ikeya−Murakami).

[구 SS−04] The phase angle dependences of