plane of the parent body at the opposite end of the dust ejection viewed from the Sun. Similar phenomenon occurs when dust particles complete one orbital revolution (what we call, neck-line structures). We succeeded in the detection of the dust ejecta of the 2007 outburst by means of the neck-line. With the image, we plan to discuss the ejection velocity and the total mass of the ejecta to deepen our understanding of the historical event.

[구 SS-03] Regional variations of optical properties on asteroid (25143) Itokawa taken with the Asteroid Multi-band Imaging Camera (AMICA) on-board the Hayabusa spacecraft

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Hayabusa is the JAXA's space mission that succeeded in sample-return from S-type asteroid (25143) Itokawa. During the rendezvous phase, more than a thousand of images were taken with the Asteroid Multi-band Imaging Camera (AMICA). It is valuable to study the regional variation of the optical properties on the asteroid using these images to know the generality and uniqueness of the returned samples. In addition, AMICA images are important in that they provide unique data set at low phase angle (i.e Sun-Itokawa-AMICA's angle) that have not been explored in the previous asteroidal missions. At the previous conference (2015 KAS spring meeting), we introduced our preliminary data analysis of AMICA data without considering the shape model of Itokawa and mentioned. In this study, we present a new result obtained through further analysis, taking account of the shape model of the asteroid. We thus utilized "plate_renderer" tool to derive Hapke model parameters at different terrains. It is found that the opposition amplitude (parameter B0) is consistent with those of the other S-type asteroids while the opposition width (parameter h) is significantly narrower than those of the other S-type asteroids. At this conference, we plan to describe the regional variation of photometric properties on Itokawa.

[구 SS-04] Fractional contribution of solar system minor bodies to the IDPs complex

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It is obvious that there are plentiful of dust particles in the interplanetary spaces of the Solar System (IDPs), based on micrometeor craters, zodiacal light and direct measurements on the spacecraft. Because of photon drag and planetary perturbations, these particles are continuously falling to the Sun or planets, therefore continuous source of the IDPs are required.

We studied the fractional contribution of each type of solar system objects to the IDPs complex through the optical properties of the potential dust sources and the zodiacal light. We found that more than 90% of the IDPs are originated from cometary nuclei. This result is discussed through the comparison with the dynamic simulation, micrometeors mineralogy and near-infrared spectrum of the zodiacal light.

In addition, we introduce our new project on the numerical simulation for the dust particles ejected from the cometary nuclei, to verify the conclusion of dominant cometary contribution and its detailed consequences.

[구 SS-05] Maturity of the Crater Rim Walls as a function of the Crater Size

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Space weathering agents such as micrometeoroids and solar wind particles continuously age the uppermost regolith of the lunar surface by comminuting as well as darkening and reddening. Among several maturity indices, we investigate median grain size (<d>) and optical maturity (OMAT) of the crater rim walls. Crater rim wall is the most immature place among the impact crater features because the vertical mixing process by mass-movement can enhance the gardening of regolith and the supply of immature materials in the deeper layer to the surface. More than 140 simple and complex craters were considered. Both <d> and OMAT values of the inner rim wall initially increase as the crater size increases until ~10-20 km, then decrease. This transition crater size happens to correspond to the transition diameter from simple to complex craters. For larger craters, i.e., complex craters, it is clear that the inner rim wall of the craters formed in recent eras tend to remain fresh and become mature along with time. For the simple crater case, smaller craters are more mature, which is opposite to the case of complex craters. This is thought to be because smaller craters become flattened more quickly, thus have smaller vertical mixing in the regolith due to mass-movement. We will also discuss on