

Ground-based observation of Jovian magnetosphere and Iogenic atmosphere at Haleakala observatory

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Observations of Jupiter were carried out using our newly established facility at Mt. Haleakala in Maui island in May and June, 2006. Location of the new observatory and its altitude (3000m) provide us with clear sky and good seeing condition. The observations are focused on distribution of neutral sodium atoms and sulfur ions which have their origin in volcanoes on Io. Brightness, size and shape of sodium clouds change with respect to the position of Io and volcanic activity.

Imaging observation of sodium cloud was made with a 20 cm telescope to determine short term variability. On the other hand, observation of sulfur ions in the Io plasma torus, which is nearly corotating with Jovian magnetic field, was carried out by using a 40 cm Schmidt Cassegrain telescope, which is equipped with a seeing suppressor which is consisted of tip-tilt mirrors and a Fabry-Perot Imager to determine the delay of Io plasma torus from rigid corotation. Our aim is to understand the atmospheric escape mechanisms from these observations. Preliminary results of these observations will be presented.