

Study of the sodium cloud distribution around the Io

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The volcanic gas escaping from Io is known to be the main source of plasma in the Jovian magnetosphere giving large effects to the Jovian magnetospheric activity. In order to detect the time variation of escaping particles, it is required to make the standard model which represents its geometric variations of gas distribution, such as Io phase angle and magnetic longitude of Io. Hence, we have observed the sodium atoms distribution around Io from the end of October to beginning of November in 1999, and calculated the sodium cloud distribution based on the past sodium escape models to represent observations.

In the model calculation of the sodium distribution, we have considered the various escape velocity distributions of the sodium atoms.