

Observations of density variability in the Io plasma torus

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The variability of the Io plasma torus (IPT) reflects the plasma environment of the Jovian magnetosphere. It is known that the ratio of [SII] doublet (671.6, 673.1nm) is to be a good indicator of the electron density. Using the new observational system in 1999, we could observe the same number of frames of both [SII]673.1nm and 671.6nm emissions. Comparison with [SII] 673.1nm variation and the ratio of 671.6nm to 673.1nm suggests that [SII] intensity variation in the IPT is caused by the density asymmetry rather than the temperature asymmetry.

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