**Seasonal variation of radial brightness contrast of Saturn’s rings**

**viewed in mid-infrared by Subaru/COMICS**

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ABSTRACT

To investigate the mid-infrared (MIR) characteristics of Saturn’s rings, we collected and analyzed MIR high spatial resolution images of Saturn’s rings obtained in January 2008 and April 2005 with COMICS mounted on Subaru Telescope, and investigated the spatial variation in the surface brightness of the rings in multiple bands in the MIR [1]. We also composed the spectral energy distributions (SEDs) of the C, B, and A rings and the Cassini Division, and estimated the temperatures of the rings from the SEDs assuming the optical depths. We find that the C ring and the Cassini Division were warmer than the B and A rings in 2008, which could be accounted for by their lower albedos, lower optical depths, and smaller self-shadowing effect. We also find that the the C ring and the Cassini Division were considerably brighter than the B and A rings in the MIR in 2008 and the radial contrast of the ring brightness is the inverse of that in 2005, which is interpreted as a result of a seasonal effect with changing elevations of the sun and observer above the ring plane.

*Keywords: Planetary rings; Infrared observation*

References

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