
[EE] Evening Poster | P (Space and Planetary Sciences) | P-PS Planetary Sciences

[P-PS04]Results from Akatsuki and advances in Venus science

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More than two earth years in Venus orbit, Akatsuki has acquired a volume of high-quality data, unveiled many new phenomena and is allowing researchers to investigate the underlying mechanisms. As the data accumulate, numerical models and theories are being advanced as well. We are no doubt living in the new golden era of Venus studies. This session invites papers of the new scientific results with Akatsuki data and the latest results of theoretical and numerical works. We expect participants of this session share the latest research results through presentations and discussion.

[PPS04-P04]Variation of Cloud Opacity on Night-side Disk of Venus

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Night-side hemisphere of Venus exhibits dark and bright regions as a result of spatially inhomogeneous cloud opacity which is illuminated by infrared radiation from deeper atmosphere. The 2- μm camera (IR2) onboard Akatsuki, Japan's Venus Climate Orbiter, is equipped with three narrow-band filters (1.735, 2.26, and 2.32 μm) to image Venus night-side disk in well-known transparency windows of CO₂ atmosphere (Allen and Crawford 1984). We analyzed Akatsuki/IR2 images to study spatial variations of cloud opacity over the night-side disk of Venus. The images are firstly corrected for the point spread function (PSF) by deconvolution. Then, obtained "true" radiance is inverted to cloud opacity by referring to the radiative transfer computations. We discuss spatial and temporal variations of cloud opacity as well as the implication to the atmospheric dynamics.