

## Mesoscale Dynamics in the Venus Atmosphere

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The Akatsuki Spacecraft is capable of observing the full disk of Venus at a number of filter-specified wavelengths, with time cadence on the order of an hour, and for up to nine days at a time (until the orbit brings the spacecraft so close that Venus exceeds the instrumental fields of view). Because of this, it is capable of supporting the elucidation of both global atmospheric dynamics (i.e., the super-rotation) and mesoscale atmospheric dynamics. Here, we describe the analysis of the driving dynamics associated with mesoscale features observed in the Akatsuki IR2 camera data. This work focuses on just a single orbit of Akatsuki, but the features and behaviors we describe appear to be common in the Venus atmosphere. We make comparisons with similar terrestrial phenomena; and assess the implications for energy and momentum transport that may affect the overall global atmospheric dynamics. Three of the four filters in Akatsuki's IR2 camera image the night side of the planet in emitted radiation. These filters have central wavelengths of 1.74 micron, 2.26 micron, and 2.32 micron, which are most sensitive to the conditions between about 50 km and 60 km altitude, in the midst of the lower and middle, condensational, cloud deck of Venus.

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