

Understanding the clouds of Venus through models and observations

Kevin McGouldrick (1)

(1) Laboratory for Atmospheric and Space Physics, University of Colorado Boulder, Boulder, Colorado, USA
(kevin.mcgouldrick@lasp.colorado.edu)

Abstract

Numerous morphological features have been identified in the middle and lower cloud decks of Venus, which are seen by means of scattering of emitted near infrared radiation from the deep atmosphere. In this presentation, we attempt to combine three unique platforms to build a complete picture of the Venus clouds. Akatsuki IR2 provides a vantage point whereby we may investigate the mesoscale dynamical behavior of the middle and lower clouds of Venus. Venus Express VIRTIS provides the data necessary to develop a clear picture of the aerosol sizes and some of the aerosol precursors. While microphysical modelling of the atmospheric column allows us to explore a wide parameter space of aerosol physical properties. More specifically, we report on the VIRTIS-derived atmospheric and aerosol properties in the vicinity of a transient cloud feature seen in both Akatsuki and VIRTIS data. We also compare our findings with recent simulations of the Venus clouds.