



Polarization as a Tool for Remote Sensing of Planetary Atmospheres

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Over the past few decades, there has been growing understanding about the potential of measurements of polarization to provide information about the composition and physical nature of planetary atmospheres. Further, it is now well known that ignoring polarization can lead to incorrect measurements of the intensity of scattered light. In this talk, I will discuss several examples of the use of polarization as a tool for remote sensing of planetary atmospheres, including but not limited to spatio-temporal variations of Venus haze properties, circular polarization of sunlight reflected by clouds, cloud top pressure retrieval, cirrus cloud microphysical properties, remote sensing of tropospheric ozone, spectral surface reflectivity, aerosol optical thickness on Mars, vertical structure of the Jovian atmosphere, stratospheric distribution of aerosols on Jupiter, and identification of liquid water on exoplanets. I will also briefly touch on the advances in polarimetry that have made these applications possible.