

**Abstract for the 2012 SPARC Data Assimilation Workshop  
Socorro, New Mexico, USA, 11–13 June 2012**

**Climatology and Variability of Upper Tropospheric/Lower  
Stratospheric Jets from MERRA Reanalysis**

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Jets are key dynamical features that define the circulation and organize transport in the upper troposphere/lower stratosphere (UTLS). The wintertime stratospheric polar night jet often extends down into the UTLS and can thus play a significant role in UTLS transport. Multiple tropopauses are common in the regions surrounding the upper tropospheric jets, and are associated with cross-tropopause transport. We use a recently developed method of characterizing the UTLS jets and tropopauses to develop a climatology of the upper tropospheric jets in relation to multiple tropopauses and the stratospheric polar night jet from the 33-year MERRA reanalysis. A jet coordinate framework is used to view dynamics and transport in relation to the upper tropospheric jets. Interannual variability and evidence for trends are discussed. We compare the climatology of MERRA assimilated ozone in relation to the jets and tropopauses to that from the ~7.5-year record of Aura Microwave Limb Sounder measurements, to assess whether the MERRA ozone product captures features of the large-scale climatology. Some comparisons with similar products derived from the ERA-Interim reanalyses will be presented.

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