

Validation of the Stratospheric Aerosol and Gas Experiment-III (SAGE-III) Aerosol Data Product

T.N. Knepp^{1,2}, M. Roell², D. Flittner², L. Thomason², J.R. Moore^{1,2}, B. Anderson², E. Winstead¹ and T. Leblanc³

¹Science Systems and Applications, Inc. (SSAI), Lanham, MD 20706; 757-864-5558, E-mail: travis.n.knepp@nasa.gov

²NASA Langley Research Center, Hampton, VA 23681

³NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109

The third generation of the Stratospheric Aerosol and Gas Experiment (SAGE-III) was launched in February 2017 and subsequently docked with the International Space Station (ISS). SAGE-III performs solar and lunar occultation observations as the ISS experiences sunrise/moonrise and sunset/moonset events. SAGE-III reports aerosol extinction at nine channels (384, 448, 520, 601, 755, 870, 1020, 1555 nm) with vertical resolution of 0.5 km (0–40 km), and nominal baseline of 5% uncertainty. Aerosol validation will be carried out by intercomparisons with a variety of techniques (e.g. lidar, occultation, optical particle counters) from a variety of platforms (e.g. ground-based, balloon-borne, satellite). The data presented in this poster represent preliminary validation results and a discussion of future requirements.

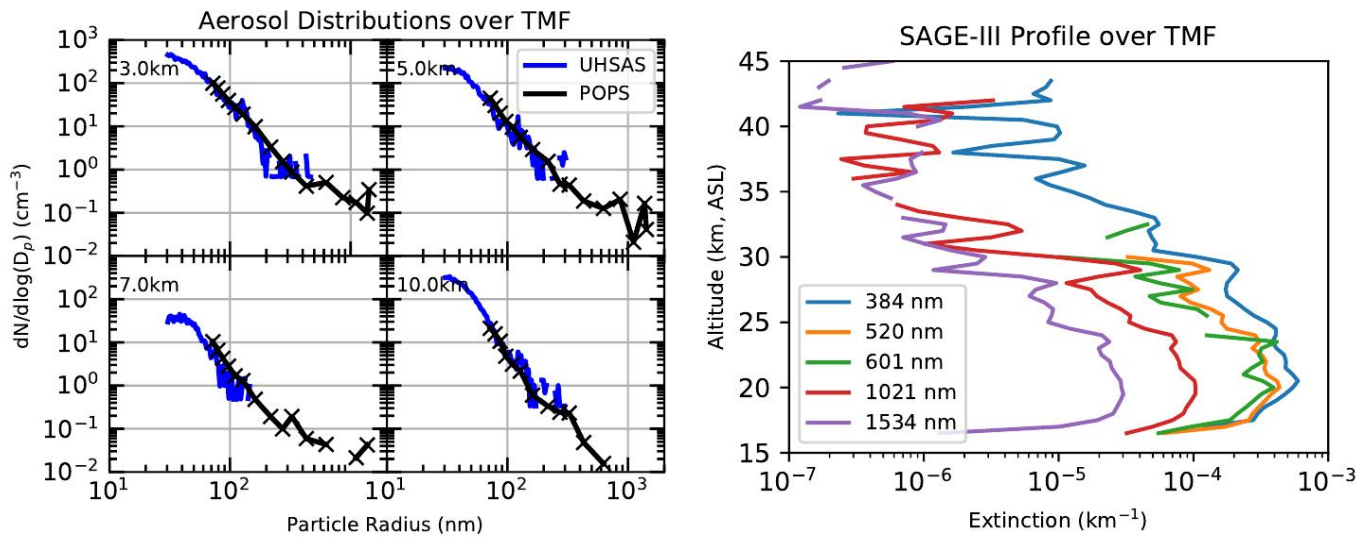


Figure 1. Aerosol data collected over Table Mountain Facility, CA. **Left panel:** aerosol size distributions from data collected on sonde (POPS) and DC8 (UHSAS) platforms. **Right panel:** aerosol extinction profiles for five wavelengths collected by the SAGE-III instrument.