SAGE III on ISS Version 5 Release Notes

This statement applies to SAGE III/ISS Version 5 (Solar Level 1B, Solar Level 2, and Lunar Level 2) data products.

Software Comments:

Both IDL and Python reader software are available to access the products.

General Comments:

This data release represents a limited, validation release. The public is invited to make comments on the data.

Ozone and nitrogen dioxide concentration and slant path column densities as well as aerosol extinction are included in the solar level 2 data product files. Water vapor and temperature/pressure products are not included in the V5 data set. See the Data Product User's Guide (DPUG) for the wavelengths of the retrievals.

Four ozone profiles are available in this release of the solar products: a mesospheric ozone product, two Chappuis-based products using multiple-linear regression (MLR) and least-squares (LS) algorithms, and a composite profile of ozone combining the three methods. The LS algorithm is the most similar to the SAGE II ozone algorithm.

Ozone and nitrogen trioxide concentrations are included in the lunar level 2 product files. Nitrogen dioxide NO2 and chlorine dioxide OClO are not included in this release. See the DPUG for the wavelengths of the retrievals.

The mid-inclination orbit of the ISS periodically results in solar (lunar) beta angles beyond the range +/- 60°, resulting in data gaps. Occasionally, events are not acquired due to obstructions between the instrument and the Sun (Moon) by the ISS or its components. During periods when vehicles are visiting the ISS, SAGE III will go into a safe mode, preventing acquisition.

At lower altitudes, the instrument often searches for the Sun (Moon) through cloud layers and this can cause artifacts in the transmission profiles. These low level data have thus been held from release, so profiles will not typically extend very deep into the troposphere.

Occasional disturbances generated by ISS and/or crew activities result in acquisition to be disrupted. These disturbances can range from a few seconds to several minutes. Depending on the length of the disturbance, the event may still be processed. Approximately 10% of the events were held from release due to disturbances.