

This statement applies to SAGE III Version 3 (Solar Level 1B, Solar Level 2, and Lunar Level 2) data products.

**A new version of the IDL reader software is available and is needed to accurately access Version 3 products. Previous versions may not generate obvious software failures, but could lead to misleading results.**

## General Comments:

Three ozone profiles are available in this release of the solar products: a mesospheric ozone product and two Chappuis-based products using multiple-linear regression (MLR) and least-squares (LS) algorithms. The composite ozone profile included in the V2 data products has not been populated in this version in order to encourage feedback from users regarding the best way to combine the three existing ozone profiles.

To eliminate obvious noise in profile products, the slant path optical depth profiles have been smoothed to an effective vertical resolution of 1 km. The width of the smoothing kernel expands to 5 km when threshold slant path optical depth abundances fall below 0.005. Information on the altitude dependence of the smoothing kernel is provided in the bit flag array for each species.

Transmission measurements used in the retrieval of Chappuis-based ozone, NO<sub>2</sub>, and aerosol extinction at 449, 521, 601, and 675 nm are corrected for unanticipated etalon effects associated with the use of a silica-fused attenuator plate during solar occultation events. Aerosol extinction measured at 384 nm and at 676 nm and longer wavelengths have not been corrected for these etalon effects in this release.

Water vapor and temperature/pressure products are not included in the V3 data set.

Version 3 provides the first release of the SAGE III Cloud Data Product. This data contains information on the presence of clouds for each profile event. A reader routine is also available.

Lunar event data files contain profiles of ozone, NO<sub>2</sub>, and NO<sub>3</sub>. The OCIO product algorithm is still under development.

Lunar event measurements are made when the moon's illumination is 40 % or greater, and the solar zenith angle at the observation tangent point is greater than 95 degrees. Data taken near these limits (illumination less than ~60 % and solar zenith angle less than ~105 degrees) may be subject to increased noise.

Altitude registration of lunar data is accomplished in part by comparison to a forward model of the oxygen A-band.

Due to orbital characteristics of the Meteor-3M platform, satellite sunrise events are always local sunsets. Satellite sunset events are local sunsets except between November and February when they are local sunrise events. The Earth-referenced event type is recorded in both the Level 1 and Level 2 product data files.