THE ACE SATELLITE SOLAR SPECTRUM

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The Canadian ACE (Atmospheric Chemistry Experiment) mission has a high resolution (0.02 cm^{-1}) Fourier transform spectrometer (FTS) in low earth orbit. ACE was launched by NASA in August 2003 and the FTS continues to operate without any degradation in performance. The primary ACE mission goal is the study ozone chemistry in the stratosphere although it is making a wide range of other measurements, for example, of organic molecules in the troposphere. In the normal operating mode, the ACE-FTS measures a sequence of atmospheric absorption spectra during sunrise and sunset ("solar occultation"). As part of the measurement sequence about 16 high sun exoatmospheric spectra are recorded for each occultation to serve as reference spectra. ACE has now measured about 18000 occultations and we have co-added 224782 pure solar spectra to produce the ACE solar atlas in the 750–4400 cm^{-1} spectral region. As compared to the previous ATMOS solar atlas, the ACE atlas generally has a higher signal-to-noise ratio but covers a smaller spectral range and contains only solar lines. The ACE atlas will be presented and compared with the ATMOS atlas.