GROUND-BASED MEASUREMENTS MADE WITH PARIS-IR DURING THE ACE CANADIAN ARCTIC VALIDATION CAMPAIGN IN 2004 AND IN 2005

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Ground-based infrared solar absorption spectra were recorded at Environment Canada's Arctic Stratospheric Ozone (AStrO) Observatory at Eureka, Nunavut (80.0°N, 86.4°W) during the ACE Canadian Arctic Validation Campaign (February 22 - March 8 2004). The measurements were made using the Portable Atmospheric Research Interferometeric Spectrometer (PARIS-IR), which is a high-resolution (0.02 cm^{-1}) ground-based version of ACE-FTS, the Fourier transform spectrometer on board the Canadian scientific satellite SCISAT-1. The spectral range of PARIS-IR is 750 - 4400 cm^{-1}, therefore absorption features from most of the major atmospheric trace gases can be recorded in one measurement scan. To retrieve vertical columns of atmospheric species, an Optimal Estimation Method algorithm (SFIT2 version 3.81) was used. The PARIS-IR vertical column results have been compared with measurements from the high-resolution infrared Fourier transform spectrometer stationed at AStrO and three zenith sky viewing UV/Visible grating spectrometers that participated in the ACE Canadian Arctic Validation Campaign. The results from the 2004 Campaign will also be compared with measurements from ACE-FTS and contrasted with new preliminary results from the 2005 Campaign (February 21 - March 9 2005).