File Revision Date:
September 16, 2004

Data Set Description:
PI: C.P. RINSLAND
Instrument: MCMATH-PIERCE FOURIER TRANSFORM SPECTROMETER
Site(s): U.S. National Solar Observatory (31.9N, 248.4E)
Measurement Quantities: Daily Average Total, Partial Vertical Columns, above the station (at 2.09 km altitude) in molecules per sq. cm. Volume mixing ratios were reported in Ref. 2.

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Instrument Description:

McMath-Pierce Fourier Transform Spectrometer operating typically at 0.005 cm-1 or 0.01 cm-1 resolution with InSb or liquid-helium As-doped silicon detectors.

Algorithm Description:

Vertical column abundances are retrieved from nonlinear least squares spectral curve fitting of selected microwindows containing isolated and well characterized line(s) of the target gas. The fitting algorithm

actually in use is the version 3.5 of SFIT2 or higher, distributed and provided by C.P. RINSLAND in collaboration with other NDSC groups.

Ancillary data:
- Line compilation : HITRAN 1996 in most cases (special files for C2H6 as described in the manuscript).
- Physical models : PT profiles assumed are daily nmc.

Expected Precision/Accuracy of Instrument:
Estimated precision and accuracy of mixing ratios or column amounts are of described in the individual papers.

Instrument History:
Operation has continued since 1976 with NDSC-related data collected on about a dozen days per year.