

# Seasonal change of stratospheric ozone and ozone-related species observed over Poker Flat, Alaska from 2000.

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Substantial ozone depletion has been observed in the middle-latitude stratosphere [e.g., Solomon, 1999]. It is widely recognized that heterogeneous reactions play a key role in ozone loss. We have successfully observed stratospheric minor species over Poker Flat, Alaska since 2000 by using a high-resolution Fourier-transform infrared (FTIR)

spectrometer, as part of the Alaska Project. Poker Flat is frequently located just outside the polar vortex in winter and spring. Observations under cold conditions give good data for studying ozone loss due to heterogeneous reactions of sulfate aerosols.

Stratospheric ozone, HNO<sub>3</sub>, HCl, and, HF have been observed from 2000 to date over Poker Flat, Alaska (65N, 147W) by our FTS. The purpose of this study is to investigate ozone loss mechanisms in the lower stratosphere between the polar region and the middle latitudes. The retrieved ozone, nitric acid, HCl, and HF value from the long-term measurements indicate seasonal and interannual cycles. The ozone results are quite consistent with ozonesonde and Earth Probe/TOMS data. The correlations of the retrieved ozone, HNO<sub>3</sub>, HF, and HCl derived from simultaneous measurements will be discussed.