Geophysical Research Abstracts, Vol. 7, 09329, 2005
SRef-ID: 1607-7962/gra/EGU05-A-09329

Measurement of formic acid in the upper troposphere with MIPAS

A.M. Waterfall and J.J. Remedios and **G. Allen**
EOS, Department of Physics and Astronomy, University of Leicester (amw24@le.ac.uk)

High resolution infrared spectra of the atmosphere, such as those recorded by the Michelson Interferometer for Passive Atmospheric Sounding (MIPAS) on ENVISAT contain information on a large number of trace constituents in addition to those species which are derived operationally. In this study, we have investigated the potential for the measurement of formic acid (HCOOH) in the upper troposphere. Formic acid is one of the most abundant organic acids present in the atmosphere, where it has been observed globally at significant concentrations in the gas phase throughout the troposphere, as well as in cloud water and aerosol and it has been reported to provide a significant contribution to the free acidity of rain. However, there is still considerable uncertainty in its distribution, and its sources and sinks, with current models failing to reproduce the observed concentrations. In the upper troposphere current observations are very sparse, and the measurement of compounds such as formic acid from limb sounding satellites provides an important opportunity for global and seasonal observation in this region of the atmosphere. Initial results for the detection of formic acid from MIPAS are very promising and in this presentation the results of our preliminary retrievals of HCOOH in the global upper troposphere will be shown.