

[Home](#)[Online Library ACP](#)

- Recent Final Revised Papers
- [Volumes and Issues](#)
- Special Issues
- Library Search
- Title and Author Search

[Online Library ACPD](#)[Alerts & RSS Feeds](#)[General Information](#)[Submission](#)[Review](#)[Production](#)[Subscription](#)[Comment on a Paper](#)

Impact
Factor
4.865

ISI
indexed

ARCHIVED IN



PORTICO

[Volumes and Issues](#) [Contents of Issue 5](#)

Atmos. Chem. Phys., 9, 1735-1746, 2009

www.atmos-chem-phys.net/9/1735/2009/

© Author(s) 2009. This work is distributed under the Creative Commons Attribution 3.0 License.

Stratospheric BrONO₂ observed by MIPAS

M. Höpfner¹, J. Orphal², T. von Clarmann¹, G. Stiller¹, and H. Fischer¹¹Institut für Meteorologie und Klimaforschung, Forschungszentrum Karlsruhe, Germany²Laboratoire Interuniversitaire des Systèmes Atmosphériques, CNRS UMR 7583, Université de Paris-Est, Créteil, France

Abstract. The first measurements of stratospheric bromine nitrate (BrONO₂) are reported. Bromine nitrate has been clearly identified in atmospheric infrared emission spectra recorded with the Michelson Interferometer for Passive Atmospheric Sounding (MIPAS) aboard the European Envisat satellite, and stratospheric concentration profiles have been determined for different conditions (day and night, different latitudes). The BrONO₂ concentrations show strong day/night variations, with much lower concentrations during the day. Maximum volume mixing ratios observed during night are 20 to 25 pptv. The observed concentration profiles are in agreement with estimations from photochemical models and show that the current understanding of stratospheric bromine chemistry is generally correct.

[Final Revised Paper](#) (PDF, 829 KB) [Discussion Paper](#) (ACPD)

Citation: Höpfner, M., Orphal, J., von Clarmann, T., Stiller, G., and Fischer, H.: Stratospheric BrONO₂ observed by MIPAS, Atmos. Chem. Phys., 9, 1735-1746, 2009. [Bibtex](#) [EndNote](#) [Reference Manager](#)

 Copernicus Publications
The Innovative Open Access Publisher[Search ACP](#)Library Search [»](#)Author Search [»](#)[News](#)

- Sister Journals AMT & GMD
- Financial Support for Authors
- Journal Impact Factor
- Public Relations & Background Information

[Recent Papers](#)

01 | ACPD, 12 Mar 2009:
A new insight on tropospheric methane in the Tropics – first year from IASI hyperspectral infrared observations

02 | ACP, 12 Mar 2009:
HOCl chemistry in the Antarctic Stratospheric Vortex 2002, as observed with the Michelson Interferometer for Passive Atmospheric Sounding (MIPAS)

03 | ACP, 12 Mar 2009:
Comparison of tropospheric gas-phase chemistry schemes for use within global models