

Prof. Dr. Johannes Orphal: Scientific publications (1989-2020)

ISI Web of Knowledge: 173 papers, h=35, 12069 citations

Scopus: 185 papers, h=35, 12411 citations

Google Scholar: h=42, 18748 citations

Scientific Journals

1. R. Raghunandan, **J. Orphal**, and A. A. Ruth, „First observation of the $2\nu_1+\nu_3$ and $3\nu_1$ bands of trans-DONO in the near-infrared using FT-IBBCEAS”, *Chemical Physics Letters*, submitted, 2020.
2. B. Tournadre, P. Chelin, M. Ray, J. Cuesta, R. D. Kutzner, X. Landsheere, A. Fortems-Cheiney, J.-M. Flaud, F. Hase, T. Blumenstock, **J. Orphal**, C. Viatte, and C. Camy-Peyret, „Atmospheric ammonia (NH_3) over the Paris megacity: 9 years of total column observations from ground-based infrared remote sensing”, *Atmospheric Chemistry and Physics Discussions*, in press, 2020.
3. F. Kwabia Tchana, A. Anantharajah, L. Manceron, **J. Orphal**, and J.-M. Flaud, „New line positions analysis of the ν_3 bands of $^{35}\text{ClNO}_2$ and $^{37}\text{ClNO}_2$ around 370 cm^{-1} ”, *Journal of Quantitative Spectroscopy and Radiative Transfer*, in press, 2020.
4. J. Reinking, V. Hermann, J. Müller, M. Schlösser, F. Hase, and **J. Orphal**, „The fundamental ν_3 band of DTO and the $2\nu_1$ overtone band of HTO from the analysis of a high-resolution spectrum of tritiated water vapour”, *Journal of Molecular Spectroscopy*, in press, 2020.
5. M. Ganciu and **J. Orphal**, „Atomic Nitrogen Decontamination System (ANDS)”, *Romanian Journal for Cyber Security* 2, 4-9, 2020.
6. M. Höpfner, J. Ungermann, S. Borrmann, R. Wagner, R. Spang, M. Riese, G. Stiller, O. Appel, A. M. Batenburg, S. Bucci, F. Cairo, A. Dragoneas, F. Friedl-Vallon, A. Hünig, S. Johansson, L. Krasaukas, B. Legras, T. Leisner, C. Mahnke, O. Möhler, S. Molleker, R. Müller, T. Neubert, **J. Orphal**, P. Preusse, M. Rex, H. Saathoff, F. Stroh, R. Weigel, and I. Wohltmann, „Ammonia nitrate particles formed in the upper troposphere from ground ammonia sources during Asian Monsoons”, *Nature Geosciences* 12, 608-612, 2019.
7. S. Johansson, M. L. Santee, J.-U. Groöß, M. Höpfner, M. Braun, F. Friedl-Vallon, F. Khosrawi, O. Kirner, E. Kretschmer, H. Oelhaf, **J. Orphal**, B.-M. Sinnhuber, I. Tritscher, J. Ungermann, K. A. Walker, and W. Woiwode, „Unusual chlorine partitioning in the 2015/16 Arctic winter lowermost stratosphere: Observations and simulations”, *Atmospheric Chemistry and Physics* 19, 8311-8338, 2019.
8. J. Reinking, M. Schlosser, F. Hase, and **J. Orphal**, „First high-resolution spectrum and line-by-line analysis of the $2\nu_1$ band of HTO around 3.8 microns”, *Journal of Quantitative Spectroscopy and Radiative Transfer* 230, 61-64, 2019.
9. J. Müller, M. Schlosser, F. Hase, N. Ziegler, R. Grössle, D. Hillesheimer, and **J. Orphal**, „Custom-built light-pipe cell for high-resolution infrared absorption spectroscopy of tritiated water vapour and other hazardous gases”, *Optics Express* 27, 17251-17261, 2019.
10. **J. Orphal**, „High-resolution spectroscopy and analysis of the ν_3 bands of ClNO (nitrosyl chloride) around $30\text{ }\mu\text{m}$ ”, *Journal of Quantitative Spectroscopy and Radiative Transfer* 230, 115-119, 2019.
11. N. Kille, R. Chiu, M. Frey, F. Hase, M. K. Sha, T. Blumenstock, J. W. Hannigan, **J. Orphal**, D. Bon, and R. Volkamer, „Separation of methane emissions from agricultural and natural gas sources in the Colorado Front Range”, *Geophysical Research Letters* 46, 3990-3998, 2019.

12. F. R. Vogel, M. Frey, J. Stauffer, Q. Tu, G. Broquet, I. Xueref-Remy, F. Chevallier, P. Ciais, M. K. Sha, P. Chelin, P. Jeseck, Y. V. Te, T. Blumenstock, **J. Orphal**, and F. Hase, „XCO₂ in an emission hot-spot region: the COCCON Paris campaign 2015”, *Atmospheric Chemistry and Physics* 19, 3271-3285, 2019.
13. M. Frey, M. K. Sha, F. Hase, M. Kiel, T. Blumenstock, R. Harig, G. Surawicz, N. M. Deutscher, K. Shiomi, J. Franklin, H. Bösch, J. Chen, M. Grutter, H. Ohyama, Y. Sun, A. Butz, G. M. Tsidu, D. Ene, D. Wunch, C. Z. Song, O. Garcia, M. Ramonet, F. Vogel, and **J. Orphal**, „Building the COllaborative Carbon Column Observing Network (COCCON): Long-term stability and ensemble performance of the EM27/SUN Fourier transform spectrometer”, *Atmospheric Measurement Techniques* 12, 1513-1530, 2019.
14. W. Woiwode, A. Dörnbrack, M. Bramberger, F. Friedl-Vallon, F. Haenel, M. Höpfner, S. Johansson, E. Kretschmer, I. Krisch, T. Latzko, H. Oelhaf, **J. Orphal**, P. Preusse, B.-M. Sinnhuber, and J. Ungermann, „Mesoscale fine structure of a tropopause fold over mountains”, *Atmospheric Chemistry and Physics* 18, 15643-15667, 2018.
15. J.-M. Flaud, A. Anantharajah, F. Kwabia Tchana, L. Manceron, **J. Orphal**, G. Wagner, and M. Birk, „High-resolution analysis of the 12.6 μm spectral region of the nitryl chloride ClNO₂ molecule”, *Journal of Quantitative Spectroscopy and Radiative Transfer* 154, 91-97, 2019.
16. S. Johansson, W. Woiwode, M. Höpfner, F. Friedl-Vallon, A. Kleinert, E. Kretschmer, T. Latzko, **J. Orphal**, P. Preusse, J. Ungermann, M. L. Santee, T. Jurkat-Witschas, A. Marsing, C. Voigt, A. Giez, M. Krämer, C. Rolf, A. Zahn, A. Engel, B.-M. Sinnhuber, and H. Oelhaf, „Airborne limb-imaging measurements of temperature, HNO₃, O₃, ClONO₂, H₂O and CFC-12 during the Arctic winter 2015/16: characterization, in-situ validation and comparison to Aura/MLS”, *Atmospheric Measurement Techniques* 11, 4737-4756, 2018.
17. N. Glatthor, T. von Clarmann, G. P. Stiller, M. Kiefer, A. Laeng, B. M. Dinelli, G. Wetzels, and **J. Orphal**, „Differences in ozone retrieval in MIPAS channels A and AB: a spectroscopic issue”, *Atmospheric Measurement Techniques* 11, 4707-4723, 2018.
18. A. Zarbo, S. Bender, J. P. Burrows, **J. Orphal**, and M. Sinnhuber, „Retrieval of O₂(¹ Σ) and O₂(¹ Δ) volume emission rates in the mesosphere and lower thermosphere using SCIAMACHY MLT limb scans”, *Atmospheric Measurement Techniques* 11, 473-487, 2018.
19. G. Wetzels, H. Oelhaf, M. Höpfner, F. Friedl-Vallon, A. Ebersoldt, T. Gulde, S. Kazarski, O. Kirner, A. Kleinert, G. Maucher, H. Nordmeyer, **J. Orphal**, R. Ruhnke, and B.-M. Sinnhuber, „Diurnal variations of BrONO₂ observed by MIPAS-B at mid-latitudes and in the Arctic”, *Atmospheric Chemistry and Physics* 17, 14631-14643, 2017.
20. **J. Orphal**, M. Birk, G. Wagner, and J.-M. Flaud, „Analysis of the ν_8 and $\nu_8+\nu_9$ band spectral regions of BrONO₂ and first determination of the ν_9 band center at 111.9(7) cm^{-1} ”, *Chemical Physics Letters* 690, 82-85, 2017.
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23. **J. Orphal**, J. Staehelin, J. Tamminen, G. Braathen, M.-R. De Backer, A. Bais, D. Balis, A. Barbe, P. K. Bhartia, M. Birk, J. W. Burkholder, K. V. Chance, T. von Clarmann, A. Cox, D. Degenstein, R. Evans, J.-M. Flaud, D. Flittner, S. Godin-Beekmann, V. Gorskhelev, A. Gratien, E. Hare, C. Janssen, E. Kyrölä, T.

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31. F. Hase, M. Frey, T. Blumenstock, J. Gross, M. Kiel, R. Kohlhepp, G. M. Tsidu, K. Schäfer, M. K. Sha, and **J. Orphal**, „Application of portable FTIR spectrometers for detecting greenhouse gas emissions of the major city Berlin”, *Atmospheric Measurement Techniques* 8, 3059-3068, 2015.

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