

Publikationen / Publications

The **SAPHIR** chamber is operational since 2002 and since then the platform for a number of measurement activities and campaigns. In the following you find publications and presentations based on the measurements at SAPHIR:

➤ [Refereed publications](#)

➤ [PhD thesis](#)

➤ [Other publications](#)

Please email to [✉ Theo Brauers](mailto:theo.brauers@mpi-bpc.de) for reprint requests.

Refereed publications

20. Fuchs, H., Brauers, T., Dorn, H.-P., Harder, H., Häsel, R., Hofzumahaus, A., Holland, F., Kanaya, Y., Kajii, Y., Kubistin, D., Lou, S., Martinez, M., Miyamoto, K., Nishida, S., Rudolf, M., Schlosser, E., Wahner, A., Yoshino, A., and Schurath, U.: Technical Note: Formal blind intercomparison of HO₂ measurements in the atmosphere simulation chamber SAPHIR during the HO_xComp campaign, *Atmos. Chem. Phys.*, 10, 12233-12250, doi:10.5194/acp-10-12233-2010, 2010.

☞ <http://www.atmos-chem-phys.net/10/12233/2010/acp-10-12233-2010.html>

19. Isotope effect in the formation of H₂ from H₂CO studied at the atmospheric simulation chamber SAPHIR
T. Röckmann, S. Walter, B. Bohn, R. Wegener, H. Spahn, T. Brauers, R. Tillmann, E. Schlosser, R. Koppmann, and F. Rohrer

ATMOSPHERIC CHEMISTRY AND PHYSICS, 10, 5343-5357, 2010

☞ <http://www.atmos-chem-phys.net/10/5343/2010/acp-10-5343-2010.html>

18. Intercomparison of measurements of NO₂ concentrations in the atmosphere simulation chamber SAPHIR during the NO₃Comp campaign

H. Fuchs, S. M. Ball, B. Bohn, T. Brauers, R. C. Cohen, H.-P. Dorn, W. P. Dubé, J. L. Fry, R. Häsel, U. Heitmann, R. L. Jones, J. Kleffmann, T. F. Mentel, P. Müsgen, F. Rohrer, A. W. Rollins, A. A. Ruth, A. Kiendler-Scharr, E. Schlosser, A. J. L. Shillings, R. Tillmann, R. M. Varma, D. S. Venables, G. Villena Tapia, A. Wahner, R. Wegener, P. J. Wooldridge, and S. S. Brown

ATMOSPHERIC MEASUREMENT TECHNIQUES, 3, 21-37, 2010

☞ <http://www.atmos-meas-tech.net/3/21/2010/amt-3-21-2010.html>

17. Technical Note: Formal blind intercomparison of OH measurements: results from the international campaign HO_xComp

E. Schlosser, T. Brauers, H.-P. Dorn, H. Fuchs, R. Häsel, A. Hofzumahaus, F. Holland, A. Wahner, Y. Kanaya, Y. Kajii, K. Miyamoto, S. Nishida, K. Watanabe, A. Yoshino, D. Kubistin, M. Martinez, M. Rudolf, H. Harder, H. Berresheim, T. Elste, C. Plass-Dülmer, G. Stange, and U. Schurath

ATMOSPHERIC CHEMISTRY AND PHYSICS, 9, 7923-7948, 2009

☞ <http://www.atmos-chem-phys.net/9/7923/2009>

16. Isoprene oxidation by nitrate radical: alkyl nitrate and secondary organic aerosol yields

A. W. Rollins, A. Kiendler-Scharr, J. L. Fry, T. Brauers, S. S. Brown, H.-P. Dorn, W. P. Dubé, H. Fuchs, A. Mensah, T. F. Mentel, F. Rohrer, R. Tillmann, R. Wegener, P. J. Wooldridge, and R. C. Cohen

ATMOSPHERIC CHEMISTRY AND PHYSICS, 9, 6685-6703, 2009

☞ <http://www.atmos-chem-phys.net/9/6685/2009>

15. Organic nitrate and secondary organic aerosol yield from NO₃ oxidation of β-pinene evaluated using a gas-phase kinetics/aerosol partitioning model

J. L. Fry, A. Kiendler-Scharr, A. W. Rollins, P. J. Wooldridge, S. S. Brown, H. Fuchs, W. Dubé, A. Mensah, M. dal Maso, R. Tillmann, H.-P. Dorn, T. Brauers, and R. C. Cohen

ATMOSPHERIC CHEMISTRY AND PHYSICS, 9, 1431-1449, 2009

☞ <http://www.atmos-chem-phys.net/9/1431/2009>

- 14.** Intercomparison of peroxy radical measurements obtained at atmospheric conditions by laser-induced fluorescence and electron spin resonance spectroscopy
Fuchs, H; Brauers, T; Haseler, R; Holland, F; Mihelcic, D; Musgen, P; Rohrer, F; Wegener, R; Hofzumahaus, A
ATMOSPHERIC MEASUREMENT TECHNIQUES, 2, 55-64, 2009
<http://www.atmos-meas-tech.net/2/55/2009/amt-2-55-2009.html>
- 13.** Intercomparison of oxygenated volatile organic compound measurements at the SAPHIR atmosphere simulation chamber
Apel, E. C., T. Brauers, R. Koppmann, B. Bandowe, J. Boßmeyer, C. Holzke, R. Tillmann, A. Wahner, R. Wegener, A. Brunner, M. Jocher, T. Ruuskanen, C. Spirig, D. Steigner, R. Steinbrecher, E. Gomez Alvarez, K. Müller, J. P. Burrows, G. Schade, S. J. Solomon, A. Ladstätter-Weissenmayer, P. Simmonds, D. Young, J. R. Hopkins, A. C. Lewis, G. Legreid, S. Reimann, A. Hansel, A. Wisthaler, R. S. Blake, A. M. Ellis, P. S. Monks, and K. P. Wyche
JOURNAL OF GEOPHYSICAL RESEARCH, 113, D20307, 2008
<http://dx.doi.org/10.1029/2008JD009865>
- 12.** Technical Note: Intercomparison of formaldehyde measurements at the atmosphere simulation chamber SAPHIR
A. Wisthaler, E. C. Apel, J. Bossmeyer, A. Hansel, W. Junkermann, R. Koppmann, R. Meier, K. Müller, S. J. Solomon, R. Steinbrecher, R. Tillmann, and T. Brauers
ATMOSPHERIC CHEMISTRY AND PHYSICS 8, 2189-2200, 2008
<http://www.atmos-chem-phys.org/8/2189/2008>
- 11.** OH-initiated degradation of several hydrocarbons in the atmosphere simulation chamber SAPHIR
Poppe, D; Brauers, T; Dorn, HP; Karl, M; Mentel, T; Schlosser, E; Tillmann, R; Wegener, R; Wahner, A
JOURNAL OF ATMOSPHERIC CHEMISTRY 57 (3):203-214 Art No. 10.1007/s10874-007-9065-y 2007
<http://dx.doi.org/10.1007/s10874-007-9065-y>
- 10.** Intercomparison of two hydroxyl radical measurement techniques at the atmosphere simulation chamber SAPHIR
Schlosser, E; Bohn, B; Brauers, T; Dorn, HP; Fuchs, H; Haseler, R; Hofzumahaus, A; Holland, F; Rohrer, F; Rupp, LO; Siese, M; Tillmann, R; Wahner, A
JOURNAL OF ATMOSPHERIC CHEMISTRY 56 (2):187-205 Art No. 10.1007/s10874-006-9049-3 2007
<http://dx.doi.org/10.1007/s10874-006-9049-3>
- 9.** Simulation chamber investigation of the reactions of ozone with short-chained alkenes
Wegener, R; Brauers, T; Koppmann, R; Bares, SR; Rohrer, F; Tillmann, R; Wahner, A; Hansel, A; Wisthaler, A
JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES 112 (D13): Art No. D13301 2007
<http://dx.doi.org/10.1029/2006JD007531>
- 8.** Technical note: Performance of Chemical Ionization Reaction Time-of-Flight Mass Spectrometry (CIR-TOF-MS) for the measurement of atmospherically significant oxygenated volatile organic compounds
Wyche, KP; Blake, RS; Ellis, AM; Monks, PS; Brauers, T; Koppmann, R; Apel, EC
ATMOSPHERIC CHEMISTRY AND PHYSICS 7, 609-620, 2007
<http://www.atmos-chem-phys.net/7/609/2007/>
- 7.** Investigation of the formaldehyde differential absorption cross section at high and low spectral resolution in the simulation chamber SAPHIR
Brauers, T; Bossmeyer, J; Dorn, HP; Schlosser, E; Tillmann, R; Wegener, R; Wahner, A
ATMOSPHERIC CHEMISTRY AND PHYSICS 7, 3579-3586, 2007
<http://www.atmos-chem-phys.net/7/3579/2007/>
- 6.** Simulation chamber studies on the NO₃ chemistry of atmospheric aldehydes
Bossmeyer, J; Brauers, T; Richter, C; Rohrer, F; Wegener, R; Wahner, A
GEOPHYSICAL RESEARCH LETTERS 33 (18): Art No. L18810 2006
<http://dx.doi.org/10.1029/2006GL026778>

5. Product study of the reaction of OH radicals with isoprene in the atmosphere simulation chamber SAPHIR
Karl, M; Dorn, HP; Holland, F; Koppmann, R; Poppe, D; Rupp, L; Schaub, A; Wahner, A
JOURNAL OF ATMOSPHERIC CHEMISTRY 55 (2):167-187 Art No. 10.1007/s10874-006-9034-x 2006
<http://dx.doi.org/10.1007/s10874-006-9034-x>
 4. Actinometric measurements of NO₂ photolysis frequencies in the atmosphere simulation chamber SAPHIR
Bohn, B; Rohrer, F; Brauers, T; Wahner, A
ATMOSPHERIC CHEMISTRY AND PHYSICS 5,493-503, 2005
<http://www.atmos-chem-phys.net/5/493/2005/>
 3. Characterisation of the photolytic HONO-source in the atmosphere simulation chamber SAPHIR
Rohrer, F; Bohn, B; Brauers, T; Bruning, D; Johnen, FJ; Wahner, A; Kleffmann, J
ATMOSPHERIC CHEMISTRY AND PHYSICS 5, 2189-2201, 2005
<http://www.atmos-chem-phys.net/5/2189/2005/>
 2. Model-aided radiometric determination of photolysis frequencies in a sunlit atmosphere simulation chamber
Bohn, B; Zilken, H
ATMOSPHERIC CHEMISTRY AND PHYSICS 5, 191-206, 2005
<http://www.atmos-chem-phys.net/5/191/2005/>
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Karl, M; Brauers, T; Dorn, HP; Holland, F; Komenda, M; Poppe, D; Rohrer, F; Rupp, L; Schaub, A; Wahner, A
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Ozone Production in the Atmosphere Simulation Chamber SAPHIR
FZJ, Institut für Chemie und Dynamik der Geosphäre, Troposphäre
Jülich, 2007
Köln, Univ., Diss., 2007
<http://hdl.handle.net/2128/3101>

Bossmeyer, J.
'Studies of Aldehydes in an Atmosphere Simulation Chamber'
Forschungszentrum, Zentralbibliothek Jülich, 2006
Berichte des Forschungszentrums Jülich ; 4218
Heidelberg, Univ ., Diss., 2006
JUJEL-4218
<http://hdl.handle.net/2128/496>

Karl, M.
'Modellierung atmosphärisch-chemischer Reaktionen in der Tageslicht-Atmosphären-Simulationskammer'
Forschungszentrum, Zentralbibliothek Jülich, 2004
Berichte des Forschungszentrums Jülich ; 4140
Münster, Univ., Diss., 2004
JUJEL-4140
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Rodriguez Bares, S.

'Untersuchungen zur Ozonolyse einfacher Alkene in der Atmosphären-Simulationskammer SAPHIR'

Forschungszentrum Jülich, Zentralbibliothek Jülich, 2003

Berichte des Forschungszentrums Jülich ; 4040

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Other publications

Wegener, R.; Brauers, T.; Bossmeyer, J.; Holzke, C.; Tillmann, R.; Koppmann, R.; Brunner, A.; Jocher, M.; Spirig, C.; Steinbrecher, R.; Meier, R.; Steigner, D.; Gómez Alvarez, E.; Müller, K.; Solomon, S. J.; Young, D.; Hopkins, J.; Legreid, G.; Wisthaler, A.; Hansel, A.; Blake, R.; Wyche, K.; Ruuskanen, T. M.; Bjerke, A.; Apel, E.

'Intercomparison of oxygenated volatile organic compounds (OVOC) measurements in the atmosphere simulation chamber SAPHIR'

Geophysical Research Abstracts, 8 (2006), 04427, presentation at AGU fall meeting 2006

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'PTR-MS measurements of HCHO and results from HCHO intercomparison measurements in the atmosphere simulation chamber SAPHIR'

Geophysical Research Abstracts, 8 (2006), 04776, presentation at AGU fall meeting 2006

Barth, M.; Arnold, K.; Brauers, T.; Daniel, D.

'Untersuchungen zum Einfluß der Zusammensetzung eines Gasgemisches auf die Schallgeschwindigkeit in der Atmosphärensimulationskammer SAPHIR'

Meteorologische Arbeiten (X) und Jahresbericht 2004 des Instituts für Meteorologie der Universität Leipzig / ed.: A. Raabe, K. Arnold. - Leipzig, Univ.-Verl., 2005. - (Wissenschaftliche Mitteilungen aus dem Institut für Meteorologie der Universität Leipzig ; 36). -

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'Evaluation of an extended reaction scheme for the tropospheric oxidation of isoprene using the Atmosphere Simulation Chamber SAPHIR'

8th International Global Atmospheric Chemistry Conference, Christchurch, Neuseeland, 04.09.2004 - 09.09.2004 : proceedings. - CD-ROM, o. Z.

Schlosser, E.; Brauers, T.; Dorn, H.-P.; Häsel, R.; Hofzumahaus, A.; Holland, F.; Rupp, L.; Siese, M.

'Vergleich zweier Methoden zur Messung der OH-Radikalkonzentrationen an der Atmosphären-Simulationskammer SAPHIR'

Verhandlungen der Deutschen Physikalischen Gesellschaft (Reihe 06), 39 (2004), 7, 181
