

Publication list:

Dr. Armin Wisthaler

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Diploma thesis:

A. Wisthaler, Experimentelle Untersuchung der Schwingungsab- und anregung von HCN⁺/DCN⁺- und HNC⁺/DNC⁺- Ionen in Stößen mit He, Universität Innsbruck, Innsbruck (1998)

Ph.D. thesis:

A. Wisthaler, Environmental Trace Gas Analysis by Proton-Transfer-Reaction Mass Spectrometry (PTR-MS), Universität Innsbruck, Innsbruck (2001)

Publications in peer-reviewed journals:

1. A. Hansel, W. Singer, A. Wisthaler, M. Schwarzmann and W. Lindinger, Energy dependencies of the proton transfer reactions $\text{H}_3\text{O}^+ + \text{CH}_2\text{O} \leftrightarrow \text{CH}_2\text{OH}^+ + \text{H}_2\text{O}$, *Int. J. Mass Spectrom. Ion Proc.* 167/168, 697-703 (1998)
2. A. Hansel, A. Jordan, C. Warneke, R. Holzinger, A. Wisthaler and W. Lindinger, Proton-Transfer-Reaction Mass Spectrometry (PTR-MS): On-line monitoring of volatile organic compounds at volume mixing ratios of a few pptv, *Plasma Sources Sci. Technol.* 8, 332-336 (1999)
3. A. Wisthaler, A. Hansel, M. Schwarzmann, Ch. Scheiring, and W. Lindinger, E. E. Ferguson, Relaxation of vibrationally excited HCN⁺ and DCN⁺ ions in collisions with He, *J. Chem. Phys.* 112, 731-735 (2000)
4. A. Hansel and A. Wisthaler, A Method for Real-Time Detection of PAN, PPN and MPAN in Ambient Air, *Geophys. Res. Lett.* 27, 895-898 (2000)
5. D. Sprung, C. Jost, T. Reiner, A. Hansel, and A. Wisthaler, Airborne measurements of acetone and acetonitrile in the tropical Indian Ocean boundary layer and free troposphere: Aircraft-based intercomparison of AP-CIMS and PTR-MS measurements, *J. Geophys. Res.* 106, 22, 28511-28528 (2001)
6. A. Wisthaler, N. R. Jensen, R. Winterhalter, W. Lindinger and J. Hjorth, Measurements of Acetone and Other Gas Phase Product Yields from the OH-initiated Oxidation of Terpenes by Proton-Transfer-Reaction Mass Spectrometry (PTR-MS), *Atmos. Environ.* 35, 6181-6191 (2001)
7. A. Wisthaler, A. Hansel, R. R. Dickerson, and P. J. Crutzen, Organic trace gas measurements by PTR-MS during INDOEX 1999, *J. Geophys. Res.*, in press (2001)
8. S. A. Guazzotti, D. T. Suess, K. R. Coffee and K. A. Prather, P. K. Quinn and T. S. Bates, A. Wisthaler and A. Hansel, W. Ball, R. R. Dickerson, C. Neusüß, V. Ramanathan, P. Crutzen, Characterization of Pollution Outflow from India and

Arabia: Biomass Burning and Fossil Fuel Combustion, *J. Geophys. Res.*, submitted (2001)

9. C. A. Stroud, J. M. Roberts, E. J. Williams, D. Heried, D. D. Parish, W. Angevine and F. C. Fehsenfeld, A. Wisthaler and A. Hansel, M. Martinez-Harder, H. Harder and W. H. Brune, B. Alicke and J. Stutz, A. B. White, Nighttime Isoprene trends at an urban forested site during the 1999 Southern Oxidant Study, *J. Geophys. Res.*, submitted (2001)

Book chapters:

1. A. Hansel, A. Wisthaler, Ch. Jost and A. Wollny, PTR-MS Measurements in two extreme environments: Nashville and the Indian Ocean, in *Chemical, Physical and Biogenic Processes in the Atmosphere*, in press (2001)
2. J. Williams, Ch. Jost, E. Simon and A. Wisthaler, Variability-lifetime relationship: Theoretical considerations and application in field measurement interpretation, in *Chemical, Physical and Biogenic Processes in the Atmosphere*, in press (2001)
3. J. Hjorth, N. R. Jensen, W. Lindinger, R. Winterhalter, A. Wisthaler, Laboratory studies of the atmospheric degradation of monoterpenes, in *Atmospheric Diagnostics in Urban Regions*, ed. by J. P. Lay, K. H. Becker, W. Hauthal, B. Rindone and C. Zetsch, pp. 141-146, *Initiativen zum Umweltschutz, Band 33*, Erich Schmid Verlag, Berlin (2001)

Invited lectures:

1. A. Wisthaler, Proton-Transfer-Reaction Mass-Spectrometry (PTR-MS): on-line monitoring of volatile organic compounds at mixing ratios of a few pptv, Escampig 98, Malahide, Ireland, August 26-29 (1998)
2. A. Wisthaler, Organic trace gas measurements during INDOEX: in situ data from the NOAA ship Ronald H. Brown, European Geophysical Society XXV General Assembly, Nice, France, 24-29 April (2000)

Invited lectures (co-author):

1. A. Hansel and A. Wisthaler, Fast-Response VOC and Organic Nitrate at CFA, SOS Data Analysis Workshop, Sheraton Imperial Hotel, Research Triangle Park, NC, March 6-10 (2000)
2. A. Hansel and A. Wisthaler, Proton-Transfer-Reaction Mass Spectrometry: A Method for Real-Time Detection of PAN-type Compounds, Oxy-Hydrocarbons and other VOCs in Ambient Air, Atmospheric Chemistry, Telluride, CO, USA, August 7-11 (2000)
3. A. Hansel and A. Wisthaler, Real time measurements of DMS during AOE-2001, Arctic Ocean Experiment 2001 WS, Landskron, Schweden, November 19-22 (2000)
4. A. Hansel and A. Wisthaler, PTR-MS Measurements in Two Extreme Environments: Nashville and the Indian Ocean, COACH International research school on Atmospheric

Chemistry, Chemical, Physical and Biogenic Processes in the Atmosphere, Obernai, France, March 5-16 (2001)

5. A. Hansel and A. Wisthaler, Application of Ion Chemistry to Environmental Trace Gas Analysis, Belgian Society for Mass Spectrometry, 6th Annual Meeting, Liège, Belgium, 21st September (2001).

Seminar talks:

1. A. Wisthaler, Schwingungsrelaxation von HCN^+ und DCN^+ in Stößen mit He, Institut für Ionenphysik, Universität Innsbruck, Innsbruck, March 31 (1998)
2. A. Wisthaler, Proton Transfer Reaction Mass Spectrometry: On-line monitoring of volatile organic compounds at pptv levels, NOAA R/V „Ronald H. Brown“, March 16, (1999)
3. A. Wisthaler, Proton Transfer Reaction Mass Spectrometry: On-line monitoring of volatile organic compounds at pptv levels, Department of Chemistry, University of California, Riverside, July 20 (1999)

Conference contributions:

1. W. Lindinger, A. Hansel, W. Singer, A. Wisthaler, M. Schwarzmam, Energy dependence of the proton transfer system $\text{H}_3\text{O}^+ + \text{CH}_2\text{O} \rightleftharpoons \text{CH}_2\text{OH}^+ + \text{H}_2\text{O}$, Winter Gordon Research Conference, Ventura, California, USA, February 23 - 27 (1997).
2. A. Hansel, W. Singer, A. Wisthaler, M. Schwarzmam and W. Lindinger, Energy dependence of the proton transfer system $\text{H}_3\text{O}^+ + \text{CH}_2\text{O} \rightleftharpoons \text{CH}_2\text{OH}^+ + \text{H}_2\text{O}$, ASMS-Proceedings, p 432, Palm Springs, California, USA, June 1 - 5 (1997)
3. A. Hansel, W. Singer, A. Wisthaler, M. Schwarzmam and W. Lindinger, Energy dependence of the proton transfer reactions $\text{H}_3\text{O}^+ + \text{CH}_2\text{O} \rightleftharpoons \text{CH}_2\text{OH}^+ + \text{H}_2\text{O}$, XX. ICPEAC-Abstracts of Contributed Papers, p PO 208, Wien, July 23-29 (1997)
4. A. Wisthaler, M. Schwarzmam, W. Singer, A. Hansel und W. Lindinger, Protonentauschreaktionssystem $\text{H}_3\text{O}^+ + \text{CH}_2\text{O} \rightleftharpoons \text{CH}_2\text{OH}^+ + \text{H}_2\text{O}$, 47. ÖPG Jahrestagung, Wien, September 22-26 (1997)
5. A. Wisthaler, A. Hansel, M. Schwarzmam and W. Lindinger, Vibrational relaxation of HCN^+ and DCN^+ in collisions with He, SASP 98, Contributions p. 4-75 to 4-78, Going/Kitzbühel, January 25-30 (1998)
6. M. Schwarzmam, W. Singer, A. Wisthaler, A. Hansel and W. Lindinger, Energy dependence of the proton transfer system $\text{H}_3\text{O}^+ + \text{CH}_2\text{O} \rightleftharpoons \text{CH}_2\text{OH}^+ + \text{H}_2\text{O}$, SASP 98, Contributions p. 4-83 to 4-87, Going/Kitzbühel, January 25-30 (1998)
7. A. Wisthaler, M. Schwarzmam, W. Singer, A. Hansel und W. Lindinger, Protonentauschreaktionen: $\text{H}_3\text{O}^+ + \text{CH}_2\text{O} \rightleftharpoons \text{CH}_2\text{OH}^+ + \text{H}_2\text{O}$, Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Verhandlungen der Deutschen Physikalischen Gesellschaft, S.141, March 16-19, Konstanz (1998)
8. A. Wisthaler, A. Hansel, M. Schwarzmam und W. Lindinger, Isotopieeffekte bei der Schwingungsrelaxation von Cyanwasserstoffionen in Stößen mit He, Frühjahrstagung

- der Deutschen Physikalischen Gesellschaft, Verhandlungen der Deutschen Physikalischen Gesellschaft, S.133, March 16-19, Konstanz (1998)
9. A. Wisthaler, A. Hansel, W. Singer, M. Schwarzmann and W. Lindinger, Energy dependence of the proton transfer system $\text{H}_3\text{O}^+ + \text{CH}_2\text{O} \rightleftharpoons \text{CH}_2\text{OH}^+ + \text{H}_2\text{O}$, WDS 98, Proceedings of contributed papers p. 342-345, Prag, 9. –12. 6. (1998)
 10. A. Wisthaler, A. Hansel, M. Schwarzmann and W. Lindinger, Vibrational relaxation of HCN^+ and DCN^+ in collisions with He, WDS 98, Proceedings of contributed papers p.346-349, Prag, 9. –12. 6. (1998)
 11. A. Wisthaler, A. Hansel, W. Singer, M. Schwarzmann and W. Lindinger, Energy dependence of the proton transfer system $\text{H}_3\text{O}^+ + \text{CH}_2\text{O} \rightleftharpoons \text{CH}_2\text{OH}^+ + \text{H}_2\text{O}$, Escampig 98, europhysics abstracts p124-125, Malahide, Ireland, August 26-29 (1998)
 12. A. Hansel, M. Glantschnig, Ch. Scheiring, A. Wisthaler, W.. Lindinger, and E.E. Ferguson, Energy dependence of the isomerization of HCN^+ to HNC^+ via ion molecule reactions, Escampig 98, europhysics abstracts p. 126-127, Malahide, Ireland, August 26-29 (1998)
 13. A. Wisthaler, A. Hansel, M. Schwarzmann and W. Lindinger, Vibrational relaxation of HCN^+ and DCN^+ in collisions with He, Escampig 98, europhysics abstracts p. 128-129, Malahide, Ireland August, 26-29 (1998)
 14. A. Hansel, A.Jordan, C. Warneke, R. Holzinger, A. Wisthaler, and W. Lindinger, Proton-Transfer-Reaction Mass-Spectrometer (PTR-MS): on-line monitoring of volatile organic compounds at mixing ratios of a few pptv, Escampig 98, europhysics abstracts p. 436-437, Malahide, Ireland, August 26-29 (1998)
 15. A. Wisthaler, A. Hansel, M. Schwarzmann und W. Lindinger und E.E. Ferguson, Isotopieeffekte bei der Schwingungsabregung von Cyanwasserstoffionen in Stoßen mit He, 48. ÖPG Jahrestagung, Graz, September 14-18 (1998)
 16. A. Hansel, A. Wisthaler, W. Singer, M. Schwarzmann and W. Lindinger, The proton transfer reaction system $\text{H}_3\text{O}^+ + \text{CH}_2\text{O} \longleftrightarrow \text{CH}_2\text{OH}^+ + \text{H}_2\text{O}$, 3. Iglers MS Tage, Igls, Februar 4-5 (1999)
 17. A. Wisthaler und A. Hansel, VOC measurements on the Ron Brown and the C-130, INDOEX workshop, Utrecht, September 8-10 (1999)
 18. A. Wisthaler, A. Hansel und W. Lindinger, Flugzeuggestützte Messungen von organischen Spurengaskomponenten mittels PTR-MS über dem Indischen Ozean, 49. ÖPG Jahrestagung, Innsbruck, September 20-25 (1999)
 19. A. Hansel, A. Wisthaler, Real-Time Monitoring of PAN, PPN and MPAN in the Atmosphere, 1999 Fall Meeting, EOS, Transactions, American Geophysical Union Vol. 80, No. 46, page F 129, November 16 (1999)
 20. D. Sprung, C. Jost, T. Reiner, A. Hansel, A. Wisthaler, Aircraft-based Intercomparison of two Measurement Techniques for Acetone and Acetonitrile, 1999 Fall Meeting, EOS, Transactions, American Geophysical Union Vol. 80, No. 46, page F 164, November 16 (1999)

21. A. Hansel, A. Wisthaler, Ion Chemistry for the Real-Time Detection of PAN in Ambient Air, SASP 2000, Contributions, p. PC-5, Folgaria (Trento), Italy, Jan. 30 – Feb. 5 (2000)
22. A. Hansel, A. Wisthaler, Real-Time Detection of PAN, PPN, and MPAN in Ambient Air, SASP 2000, Contributions, p. PC-6, Folgaria (Trento), Italy, Jan. 30 – Feb. 5 (2000)
23. A. Wisthaler, A. Hansel, D. Sprung, C. Jost, and T. Reiner, Aircraft-based comparison of two CIMS measurement techniques for acetone and acetonitrile, SASP 2000, Contributions, p. PC-16, Folgaria (Trento), Italy, Jan. 30 – Feb. 5 (2000)
24. A. Wisthaler, A. Hansel, and P.J. Crutzen, Organic trace gas measurements during the INDOEX 1999 cruise of the NOAA research vessel Ronald H. Brown, SASP 2000, Contributions, p. PC-17, Folgaria (Trento), Italy, Jan. 30 – Feb. 5 (2000)
25. A. Hansel, A. Wisthaler, *Organic trace gas measurements during INDOEX 1999*, INDOEX workshop, Universität Innsbruck, March 1-2 (2000)
26. C. Stroud, J. Roberts, A. Hansel, A. Wisthaler, Comparison of NOAA FID Method with the Innsbruck PTR-MS Method, SOS Data Analysis Workshop, Sheraton Imperial Hotel, Research Triangle Park, NC, March 6-10, (2000)
27. A. Wisthaler, A. Hansel, and P.J. Crutzen, Organic Trace gas Measurements During INDOEX: In Situ Data from the NOAA ship Ronald H. Brown, European Geophysical Society XXV General Assembly, Geophys. Res. Abstracts, Vol. 2, Nice, France, 25-29 April (2000)
28. D. Sprung, C. Jost, T. Reiner, A. Hansel, and A. Wisthaler, Comparison of two Different Mass Spectrometric Measurement Techniques for the Airborne Determination of Acetone and Acetonitrile, European Geophysical Society XXV General Assembly, Geophys. Res. Abstracts, Vol. 2, Nice, France, 25-29 April (2000)
29. A. Hansel, A. Wisthaler, A Method for Real Time Detection of PAN, PPN, and MPAN in Ambient Air, European Geophysical Society XXV General Assembly, Geophys. Res. Abstracts, Vol. 2, Nice, France, 25-29 April (2000)
30. A. Wisthaler, N. R. Jensen, A. Jordan, B. R. Larsen, R. Winterhalter, W. Lindinger and J. Hjorth, PTR-MS measurements of the Formation of Acetone by the OH-initiated Oxidation of Terpenes in air, European Geophysical Society XXV General Assembly, Nice, France, 25-29 April (2000)
31. A. Hansel, A. Wisthaler, and P.J. Crutzen, Organic Trace Gas Measurements During INDOEX: In Situ Data from the NCAR C-130 Aircraft, European Geophysical Society XXV General Assembly, Geophys. Res. Abstracts, Vol. 2, Nice, France, 25-29 April (2000)
32. J. Hjorth, N. R. Jensen, B. Larsen, W. Lindinger, R. Winterhalter, and A. Wisthaler, Laboratory studies of the atmospheric degradation of monoterpenes, 4th German-Italian Workshop on atmospheric chemistry, Proceedings, St. Marienthal-Goerlitz (D), June 2-4 (2000)

33. A. Wisthaler, J. Hjorth, N. R. Jensen, B. Larsen, W. Lindinger, R. Winterhalter, Laboratory studies of the formation of acetone and other volatile products of the atmospheric oxidation of monoterpenes, 4th EC/EUROTRAC-2 JOINT WORKSHOP, EPF Lausanne, September 10-13 (2000)
34. A. Hansel, A. Wisthaler, and P.J. Crutzen, Organic Trace Gas Measurements During INDOEX: In Situ Data from the NCAR C-130 Aircraft, 50. ÖPG Jahrestagung, Tagungsprogramm Seite 132, Graz, September 25-29 (2000)
35. A. Hansel, and A. Wisthaler, A Method for Real Time Detection of PAN, PPN and MPAN in Ambient Air, 50. ÖPG Jahrestagung, Tagungsprogramm Seite 131, Graz, September 25-29 (2000)
36. D. Sprung, C. Jost, T. Reiner, A. Wisthaler, and A. Hansel, Aircraft-based Comparison of two Measurement Techniques for Acetone and Acetonitrile, 50. ÖPG Jahrestagung, Tagungsprogramm Seite 131, Graz, September 25-29 (2000)
37. A. Wisthaler, J. Hjorth, N. R. Jensen, B. R. Larsen, R. Winterhalter, A. Jordan and W. Lindinger, PTR-MS measurements of the formation of acetone by the OH-initiated oxidation of terpenes in air, Seite 81, Graz, September 25-29 (2000)
38. A. Hansel, A. Wisthaler, Real time measurements of DMS during AOE-2001, Arctic Ocean Experiment 2001 WS, Landskron, Schweden, November 19-22 (2000)
39. A. Wisthaler, A. Hansel, C. Stroud, J.M. Roberts, Comparison of oxy-VOC and PAN measurements at Cornelia Fort Airport, 2000 Fall Meeting, EOS, Transactions, American Geophysical Union Vol. 81, No. 48, page F 123, November 28 (2000)
40. A. Hansel, A. Wisthaler, J.M. Roberts, C. Stroud, E.J. Williams, F.C. Fehsenfeld, Fast Response VOC Measurements at Cornelia Fort Airport, 2000 Fall Meeting, EOS, Transactions, American Geophysical Union Vol. 81, No. 48, page F 104, November 28 (2000)
41. A. Hansel, and A. Wisthaler, A Method for Real Time Detection of PAN, PPN, and MPAN in Ambient Air, 4. Iglers MS-Tage, P6, Iglers, 8-9 February (2001)
42. A. Wisthaler, A. Hansel C. Stroud, and J.M. Roberts, Comparison of oxy-VOC and PAN measurements in ambient air, 4. Iglers MS-Tage, P24, Iglers, 8-9 February (2001)
43. A. Wisthaler, A. Hansel, R. R. Dickerson, and P. J. Crutzen, Organic trace gas measurements by PTR-MS during INDOEX 1999, International School on Atmospheric Chemistry, Obernai, France, 5 - 16 March (2001)
44. A. Hansel, and A. Wisthaler, PTR-MS measurements in the tropical troposphere, Frühjahrstagung des Fachverbandes Umweltphysik der DPG, Hamburg , 20 - 22 March (2001)
45. A. Wisthaler, and A. Hansel, Fast-response acetonitrile measurements by PTR-MS: a promising tool for biomass burning related field studies, Frühjahrstagung des Fachverbandes Umweltphysik der DPG, Hamburg , 20 - 22 March (2001)
46. A. Wisthaler, N. R. Jensen, R. Winterhalter, W. Lindinger and J. Hjorth, Measurements of Acetone and Other Gas Phase Product Yields from the OH-initiated Oxidation of

Terpenes by Proton-Transfer–Reaction Mass Spectrometry (PTR-MS), Frühjahrstagung des Fachverbandes Umweltphysik der DPG, Hamburg , 20 - 22 March (2001)

47. A. Wisthaler, A. Hansel C. Stroud, and J.M. Roberts, Comparison of oxy-VOC and PAN measurements in ambient air, Frühjahrstagung des Fachverbandes Umweltphysik der DPG, Hamburg , 20 - 22 March (2001)
48. A. Hansel, A. Wisthaler, J. M. Roberts, C. Stroud, E. J. Williams, F. C. Fehsenfeld, Fast Response VOC Measurements during SOS 99 in Nashville, TN, European Geophysical Society XXVI General Assembly, Geophys. Res. Abstracts, Vol. 3, Nice, France, 25 - 30 March (2001)
49. A. Wisthaler, A. Hansel C. Stroud, and J.M. Roberts, Comparison of oxy-VOC and PAN measurements during SOS 99 in Nashville, TN, European Geophysical Society XXVI General Assembly, Geophys. Res. Abstracts, Vol. 3, Nice, France, 25 - 30 March (2001)
50. A. Wisthaler, and A. Hansel, The importance of acetonitrile measurements in biomass burning related field studies, European Geophysical Society XXVI General Assembly, Geophys. Res. Abstracts, Vol. 3, Nice, France, 25 - 30 March (2001)
51. A. Hansel and A. Wisthaler, PTR-MS Measurements in Two Extreme Environments: Nashville and the Indian Ocean, COACH International research school on Atmospheric Chemistry, Chemical, Physical and Biogenic Processes in the Atmosphere, Book of abstracts Tuesday 13 March 2001 Lecture A, Obernai, France, March 5-16 (2001)
52. A. Wisthaler and A. Hansel, Organic Trace Gas Measurements by PTR-MS during INDOEX 1999, COACH International research school on Atmospheric Chemistry, Chemical, Physical and Biogenic Processes in the Atmosphere, Book of abstracts Posters, Obernai, France, March 5-16 (2001)
53. A. Hansel and A. Wisthaler, PTR-MS Measurements in the Tropical Troposphere, 8th Scientific Assembly of IAMAS, Innsbruck, 10-18 July (2001)
54. A. Wisthaler and A. Hansel, Fast-Response Acetonitrile Measurements by PTR-MS: A Promising Tool for Biomass Related Field Studies, 8th Scientific Assembly of IAMAS, Innsbruck, 10-18 July (2001)
55. A. Hansel and A. Wisthaler, Application of Ion Chemistry to Environmental Trace Gas Analysis, 51. Jahrestagung der ÖPG, Tagungsprogramm, Seite 105, Wien, 17-21 September (2001)
56. A. Hansel and A. Wisthaler, A Method for Real Time Detection of PAN, PPN, and MPAN in Ambient Air, 6th Annual Meeting of the Belgian Society for Mass Spectrometry, Liège, Belgium, 21st September (2001)
57. D. Sprung, C. Jost, T. Reiner, A. Hansel, A. Wisthaler, Aircraft-based Intercomparison of two Measurement Techniques for Acetone and Acetonitrile, 6th Annual Meeting of the Belgian Society for Mass Spectrometry, Liège, Belgium, 21st September (2001)
58. A. Hansel and A. Wisthaler, Application of Ion Chemistry to Environmental Trace Gas Analysis, Belgian Society for Mass Spectrometry, 6th Annual Meeting, proceedings, page 11, Liège, Belgium, 21st September (2001)