

LAC Publications 2004

Journal Articles 2004

- Ammann, C., C. Spirig, A. Neftel, M. Komenda, A. Schaub, and M. Steinbacher, 2004:
Calibration and Application of PTR-MS for Biogenic VOC Measurements in a Deciduous Forest.
International Journal of Mass Spectrometry, **239**, 87-101.
- Ammann, C., C. Spirig, A. Neftel, M. Steinbacher, M. Koomenda, and A. Schaub, 2004:
Application of PTR-MS for measurements of biogenic VOC in a deciduous forest.
Int. J. Mass Spectrom., **239**.
- Andreani-Aksoyoglu, S., A. S. H. Prévôt, U. Baltensperger, J. Keller, and J. Dommen, 2004:
Modeling of formation and distribution of secondary aerosols in the Milan area (Italy).
J. Geophys. Res., **109**, doi:10.1029/2003JD004231.
- Baertsch-Ritter, N., J. Keller, J. Dommen, and A. S. H. Prévôt, 2004:
Effects of various meteorological conditions and spatial emission resolutions on the ozone concentration and ROG/NO_x limitation in the Milan area (I).
Atmos. Chem. Phys., **4**, 423-438.
- Bojinski, S., D. Schläpfer, M. Schaepmann, J. Keller, and K. Itten, 2004:
Aerosol mapping over land with imaging spectroscopy using spectral autocorrelation.
International Journal of Remote Sensing, **25**, 5025-5047.
- Collaud Coen, M., E. Weingartner, D. Schaub, C. Hueglin, C. Corrigan, S. Henning, M. Schwikowski, and U. Baltensperger, 2004:
Saharan dust events at the Jungfrauoch: detection by wavelength dependence of the single scattering albedo and first climatology analysis.
Atmos. Chem. Phys., **4**, 2465-2480.
- Cvitas, T., M. Furger, R. Girgzdiene, L. Haszpra, N. Kezele, L. Klasinc, A. Planinsek, M. Pompe, A. S. H. Prevot, H. E. Scheel, and E. Schuepbach, 2004:
Spectral analysis of boundary layer ozone data from the EUROTRAC TOR network.
J. Geophys. Res.-Atmos., **109**, D02302 doi:10.1029/2003JD003727.
- de Wekker, S. F. J., D. G. Steyn, and S. Nyeki, 2004:
A comparison of aerosol-layer and convective boundary-layer structure over a mountain range during STAAARTE '97.
Boundary-Layer Meteorology, **113**, 249-271.
- Fisseha, R., J. Dommen, M. Sax, D. Paulsen, M. Kalberer, R. Maurer, F. Höfler, E. Weingartner, and U. Baltensperger, 2004:
Identification of organic acids in secondary organic aerosol and the corresponding gas phase from chamber experiments.
Analytical Chemistry, **76**, 6535-6540.
- Frioud, M., V. Mitev, R. Matthey, H. Richner, M. Furger, and S. Gubser, 2004:
Variation of the aerosol stratification over the Rhine Valley during foehn development: a backscatter lidar study.
Meteorologische Zeitschrift, **13**, 175-181.
- Furger, M., A. Rossa, and C. Schwierz, 2004: **Editorial: International Conference on Alpine Meteorology and MAP Meeting 19-23 May 2003, Brig, Switzerland.**
Meteorologische Zeitschrift, **13**, 3.
- Gehrig, R., M. Hill, B. Buchmann, D. Imhof, E. Weingartner, and U. Baltensperger, 2004:
Separate determination of PM₁₀ emission factors of road traffic for tailpipe emissions and emissions from

abrasion and resuspension processes.

International Journal of Environment and Pollution, **22**, 312-325.

Gysel, M., E. Weingartner, S. Nyeki, D. Paulsen, U. Baltensperger, I. Galambos, and G. Kiss, 2004:
Hygroscopic properties of water-soluble matter and humic-like organics in atmospheric fine aerosol.

Atmos. Chem. Phys., **4**, 35-50.

Hagedorn, F., M. Saurer, and P. Blaser, 2004:

A ^{13}C tracer study to identify the origin of dissolved organic carbon in forested mineral soils.

Eur. J. Soil Sci., **55**, 91-100.

Henne, S., M. Furger, S. Nyeki, M. Steinbacher, B. Neining, S. F. J. De Wekker, J. Dommen, N. Spichtinger, A. Stohl, and A. S. H. Prévôt, 2004:

Quantification of topographic venting of boundary layer air to the free troposphere.

Atmospheric Chemistry and Physics, **4**, 497-509.

Henning, S., S. Bojinski, S. Ghan, S. Nyeki, E. Weingartner, S. Wurzler, and U. Baltensperger, 2004:

Aerosol partitioning in natural mixed-phase clouds.

Geophys. Res. Lett., **31**, doi:10.1029/2003GL019025.

Jäggi, M., R. Siegwolf, M. Genenger, D. Hallenbarter, I. Brunner, and J. Fuhrer, 2004:

Wood ash treatment affects seasonal N fluctuations in needles of adult *Picea abies* trees: a ^{15}N -tracer study.

Trees, **18**, 54-60.

Jenet, A., S. Fernandez-Rivera, M. Kreuzer, W. Langhans, D. Werling, M. Saurer, and M. Senn, 2004:

Relationship of body fat stores and leptin expression in adipose tissue in African cows of different genotype.

J. Anim. Feed Sci., **13**, 409-412.

Kalberer, M., S. Henne, A. S. H. Prévôt, and M. Steinbacher, 2004:

Vertical Transport and Degradation of Polycyclic Aromatic Hydrocarbons in an Alpine Valley.

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Kalberer, M., D. Paulsen, M. Sax, M. Steinbacher, J. Dommen, A. S. H. Prévôt, R. Fisseha, E. Weingartner, V. Frankevich, R. Zenobi, and U. Baltensperger, 2004:

Identification of Polymers as Major Components of Atmospheric Organic Aerosols.

Science, **303**, 1659-1662.

Müller, K., G. Spindler, W. Maenhaut, R. Hitzenberger, W. Wieprecht, U. Baltensperger, and H. ten Brink, 2004:

INTERCOMP2000, a campaign to assess the comparability of methods in use in Europe for measuring aerosol composition.

Atmos. Environ., **38**, 6459-6466.

Nyeki, S., M. Gysel, E. Weingartner, U. Baltensperger, R. Hitzenberger, A. Petzold, and C. W. Wilson, 2004:

Properties of jet engine combustion particles during the PartEmis experiment: Particle size spectra ($d > 15$ nm) and volatility.

Geophys. Res. Lett., **31**, art. no.-L18105.

Ordóñez, C., H. Mathis, M. Furger, S. Henne, C. Hüglin, J. Staehelin, and A. S. H. Prévôt, 2004:

Changes of daily surface ozone maxima in Switzerland in all seasons from 1992 to 2002 and discussion of summer 2003.

Atmos. Chem. Phys. Discuss., **4**, 7047-7088.

Rossa, A., C. Schwierz, and M. Furger, 2004:

Editorial: International Conference on Alpine Meteorology and MAP Meeting 19-23 May 2003, Brig, Switzerland.

Meteorologische Zeitschrift, 67-68 DOI: 10.1127/0941-2948/2004/0013-0067.

Saurer, M., P. Cherubini, M. Ammann, B. De Cinti, and R. T. W. Siegwolf, 2004:

First detection of nitrogen from NO_x in tree rings: a $^{15}\text{N}/^{14}\text{N}$ study near a motorway.

Atmospheric Environment, **38**, 2779-2787.

Saurer, M., R. T. W. Siegwolf, and F. Schweingruber, 2004:

Carbon isotope discrimination indicates improving water-use efficiency of trees in northern Eurasia over the

last 100 years.

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Artefacts in the sampling of nitrate studied in the "INTERCOMP" campaigns of EUROTRAC-AEROSOL.
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Spirig, C., A. Neftel, C. Ammann, J. Dommen, W. Grabmer, A. Thielmann, A. Schaub, J. Beauchamp, A. Wisthaler, and A. Hansel, 2004:

Flux measurements of biogenic VOCs during ECHO2003.

Atmos. Chem. Phys. Discuss., **4**, 6603-6643.

Steinbacher, M., H. G. Bingemer, and U. Schmidt, 2004:

Measurements of the exchange of carbonyl sulfide (OCS) and carbon disulfide (CS₂) between soil and atmosphere in a spruce forest in central Germany.

Atmos. Environ., **38**, 6043-6052.

Steinbacher, M., J. Dommen, C. Ammann, C. Spirig, A. Neftel, and A. S. H. Prévôt, 2004:

Performance characteristics of a proton-transfer-reaction mass spectrometer (PTR-MS) derived from laboratory and field measurements.

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Steinbacher, M., S. Henne, J. Dommen, P. Wiesen, and A. S. H. Prévôt, 2004:

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Steinmann, K., R. T. W. Siegwolf, M. Saurer, and C. Körner, 2004:

Carbon fluxes to the soil in a mature temperate forest assessed by ¹³C isotope tracing.

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Radiocarbon (¹⁴C) deduced biogenic and anthropogenic contributions to organic carbon (OC) of urban aerosols from Zürich, Switzerland.

Atmos. Environ., **38**, 4035-4044.

Szidat, S., T. M. Jenk, H. W. Gäggeler, H. A. Synal, R. Fisseha, U. Baltensperger, M. Kalberer, V. Samburova, L. Wacker, M. Saurer, M. Schwikowski, and I. Hajdas, 2004:

Source apportionment of aerosols by ¹⁴C measurements in different carbonaceous particle fractions.

Radiocarbon, **46**, 475-484.

Szidat, S., T. M. Jenk, H. W. Gäggeler, H. A. Synal, I. Hajdas, G. Bonani, and M. Saurer, 2004:

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A portable automated system for trace gas sampling in the field and stable isotope analysis in the laboratory.

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A European aerosol phenomenology-1: physical characteristics of particulate matter at kerbside, urban, rural and background sites in Europe.

Atmospheric Environment, **38**, 2561-2577.

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Measurement and prediction of emissions of aerosols and gaseous precursors from gas turbine engines (PartEmis): an overview.

Aerospace Sciences and Technology, **8**, 131-143.

Books / Book Sections 2004

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Pyrolysis Techniques for Oxygen Analysis of Cellulose.

Handbook of Stable Isotope Analytical Technique, P. A. de Groot (Ed.). B.V. Elsevier, 497-508.

Conference Proceedings 2004

Andreani-Aksoyoglu, S., 2004:

Aerosol Modelling with CAMx and PMCAMx: A Comparison Study.

27th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application, Banff, Canada.

Andreani-Aksoyoglu, S., J. Keller, and A. S. H. Prévôt, 2004:

Aerosol Modelling with CAMx and PMCAMx.

2nd GLOREAM/EURASAP Workshop, Copenhagen, Denmark.

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Aerosol Modelling with CAMx and PMCAMx.

9th International Conference on Harmonization within Atmospheric Dispersion Modelling for Regulatory Purposes, Garmisch-Partenkirchen, Germany, June 1-4 2004, Forschungszentrum Karlsruhe GmbH, 204-208.

Andreani-Aksoyoglu, S., J. Keller, and A. S. H. Prévôt, 2004:

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Andreani-Aksoyoglu, S., J. Keller, A. S. H. Prévôt, J. Dommen, U. Baltensperger, and J. P. Putaud, 2004:

Modelling of particulate air pollution in northern Italy.

In: C. Borrego, Incecik, S. (Editor), 26th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application, 2003. Kluwer Academic/Plenum Publishers, Istanbul, Turkey, 47-55.

Baltensperger, U., 2004:

Formation and Transformation of Secondary Organic Aerosol in the new PSI Smogchamber.

Seminar des Labors für Radio- und Umweltchemie.

Baltensperger, U., 2004:

Aus Gasen werden Aerosolpartikel - die PSI Smogkammer zeigt uns wie.

ENE Seminar, PSI, October 7, 2004.

Baltensperger, U., 2004:

Sampling and Chemistry of Size Segregated Aerosols.

TFMM workshop, Oslo, Norway, November 22-24, 2004.

Baltensperger, U., M. Kalberer, J. Dommen, R. Fisseha, G. Kiss, S. Nyeki, D. Paulsen, A. S. H. Prévôt, V. Samburova, M. Sax, S. Sjögren, E. Weingartner, and R. Zenobi, 2004:

Polymers in Organic Aerosols From Field and Laboratory Experiments.

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Baltensperger, U., D. Paulsen, M. Steinbacher, J. Dommen, A. S. H. Prévôt, R. Fisseha, M. Kalberer, M. Sax, V. Frankevich, R. Zenobi, M. R. Alfarra, and H. Coe, 2004:

Identification of Polymers as Major Components of Secondary Organic Aerosol.

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Baltensperger, U., D. Paulsen, M. Steinbacher, J. Dommen, A. S. H. Prévôt, R. Fisseha, E. Weingartner, M. Kalberer, M. Sax, V. Frankevich, R. Zenobi, and H. Coe, 2004:

Identification of Polymers as Major Components of Atmospheric Organic Aerosols.

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Bantelmann, E., N. Buchmann, and R. T. W. Siegwolf, 2004:

 $d^{18}O$ of leaf water instantly reflects microclimatic changes.

4th Conference on Application of Stable Isotope Techniques to Ecological Studies, Wellington, New Zealand.

Bantelmann, E., N. Rogiers, W. Eugster, N. Buchmann, and R. Siegwolf, 2004:

Stable C and O isotopes reveal the effects of land use on the carbon fluxes in mountainous ecosystems.

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Bantelmann, E., N. Rogiers, W. Eugster, N. Buchmann, and R. T. W. Siegwolf, 2004:

Stable C and O isotopes reveal the effects of land use on the carbon fluxes in mountainous ecosystems.

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Stable C isotopes reveal the effects of land use in mountainous ecosystems.

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SIBAE-BASIN Conference: Partitioning of fluxes between the biosphere across spatial scales, Interlaken.

Bantelmann, E., M. Saurer, N. Buchmann, and R. Siegwolf, 2004:

 $d^{18}O$ of grass and herbal leaf water reflects microclimatic changes with a different intensity.

Institute of Plant Sciences, ETHZ: Symposium for PhD students, Kappel am Albis.

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Climate driven differences in leaf water $d^{18}O$ of grasses and herbs.

SIBAE-BASIN conference: Oxygen Isotopes as a tracer linking global O_2 , CO_2 and H_2O cycles, San Francisco.

Bower, K. N., M. J. Flynn, M. W. Gallagher, J. D. Allan, J. Crosier, T. W. Choularton, H. Coe, R. Burgess, U.

Baltensperger, and E. Weingartner, 2004:

Measurements of wintertime cloud-aerosol interactions at the Jungfraujoch mountaintop site in the swiss alps.

AAAR Conference, Atlanta, Georgia, USA.

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PM 10 from railway abrasion processes.

EAC 2004, Budapest Hungary.

Bukowiecki, N., F. Hegedüs, R. Gehrig, M. Hill, P. Lienemann, G. Falkenberg, E. Weingartner, and U. Baltensperger, 2004:

Measuring size-segregated ambient aerosol filter samples with high time resolution using SR-XRF.

HASYLAB User Meeting 2004, Hamburg (D).

Bukowiecki, N., F. Hegedüs, R. Gehrig, M. Hill, P. Lienemann, G. Falkenberg, E. Weingartner, and U. Baltensperger, 2004:

Highly time resolved elemental ambient concentrations of railway generated aerosols.

European Aerosol Conference. Journal of Aerosol Science, Elsevier Ltd., Budapest (HU), S463-S464.

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Seasonal variations of soluble OC fractions in Alpine Valleys.

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Cozic, J., S. Mertes, E. Weingartner, B. Verheggen, A. Petzold, and U. Baltensperger, 2004:

Scavenging ratio of Black Carbon by cloud droplets and ice crystals at the high Alpine site Jungfraujoch (3580 m asl.).

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Dommen, J., 2004:

The PSI Chamber: Observations of polymer formation in secondary organic aerosol.

NATO: EST.ARW 980164 on Environmental Simulation Chambers: Application to Atmospheric Chemical Processes, Zakopane, Poland, October 1-4, 2004.

Dommen, J., and A. Gascho, 2004:

Use of the PTR-MS to measure the Aerosol chemical composition.

8th International Conference on Carbonaceous Particles in the Atmosphere, Vienna, September 14-16, 2004.

Dommen, J., M. Steinbacher, R. Fisseha, D. Paulsen, U. Baltensperger, M. Sax, and M. Kalberer, 2004:

Aerosol-chamber study of the 1,3,5-trimethylbenzene/NO_x photooxidation: continuous measurements of gas phase product distributions.

EGU, 1st General Assembly, Nice, France, April 25 - 30, 2004.

Fisseha, R., J. Dommen, M. Sax, D. Paulsen, M. Kalberer, R. Maurer, F. Höfler, and U. Baltensperger, 2004:

Identification of organic acids using IC/MS in chamber experiments.

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Fisseha, R., J. Dommen, M. Sax, D. Paulsen, M. Kalberer, R. Maurer, F. Höfler, and U. Baltensperger, 2004:

Use of IC-MS for organic acid measurements in chamber experiments.

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Identification of organic acids using IC/MS in chamber experiments.

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Use of stable isotope of carbon as a source tracer of organic acids in the atmosphere.

SIBAE-BASIN Conference, Interlaken.

Furger, M., N. Bayfield, and N. Gotsch, 2004:

Stakeholder perception of impacts of policy change on mountain landscapes: Workshop at Küsnacht 14 Nov 2003.

Paul Scherrer Institut, Villigen, 28.

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Beurteilung der Auswirkungen eines Landwirtschaftspolitikwechsels auf Gebirgslandschaften durch die Entscheidungsträger. Workshop in Küsnacht 14. November 2003.

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CO₂ Bilanz über einer Voralpenwiese im Hitzesommer 2003.

Deutsch-Oesterreichisch-Schweizerische (DACH) Meteorologen-Tagung 2004, Karlsruhe, Germany, CD-ROM.

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Soil moisture and water vapour deficit at the Swiss Carbomont field site measured during the hot summer of 2003.

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Determination of PM₁₀ emission factors including abrasion and resuspension processes from field measurements in Switzerland.

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Klimatologie erhöhter Schichten der spezifischen Feuchte im Lee der Alpen.

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First climatological Analysis of Mountain Venting using Water Vapour Profiles Up-Wind and Down-Wind of the Alps.

Bulletin of the American Meteorological Society, 946-947.

Henning, S., T. Rosenhörn, E. Weingartner, U. Baltensperger, and M. Bilde, 2004:

Activation behavior of ambient aerosol (Jungfrauoch, 3580 m asl).

EAC 2004, Budapest, Hungary, September 6-10, 2004, S67-S68.

Imhof, D., E. Weingartner, R. Gehrig, M. Hill, B. Buchmann, and U. Baltensperger, 2004:

Fine particle number and volume emission factors derived for different traffic situations in Switzerland.

European Aerosol Conference, Budapest, September 6-10, 2004, S185-S186.

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Starch extraction method and $d^{13}C$ measurements - Paul Scherrer Institut.

Jena (Ge), Max-Planck-Institute for Biogeochemistry, Workshop - starch/sugar ^{13}C .

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$d^{13}C$ -Werte in Boden- CO_2 .

Oensingen/ CO_2 - Workshop, Hotel Blume, Baden.

Jäggi, M., M. Saurer, M. Volk, and J. Fuhrer, 2004:

Effects of elevated ozone on leaf $d^{13}C$ and leaf conductance of plant species grown in semi-natural grassland with or without irrigation.

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Kalberer, M., D. Paulsen, M. Sax, M. Steinbacher, J. Dommen, A. S. H. Prévôt, R. Fisseha, W. E., V. Frankevich, and V. Sambourova, 2004:

Polymers in secondary organic aerosols.

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Keel, S. G., R. T. Siegwolf, and C. Körner, 2004:

Routes and rates of C-input in a temperate deciduous forest demonstrated by a large scale ^{13}C tracer experiment.

SIBAE-BASIN, Interlaken, Switzerland.

Keel, S. G., R. T. W. Siegwolf, and C. Körner, 2004:

Routes and rates of C-input in a temperate deciduous forest demonstrated by a large scale ^{13}C tracer experiment.

JESIUM, Vienna, Austria.

Keel, S. G., R. T. W. Siegwolf, and C. Körner, 2004:

Routes and rates of C-input in a temperate deciduous forest demonstrated by a large scale ^{13}C tracer experiment.

Swiss Canopy Crane workshop, Basel, Switzerland.

Keel, S. G., R. T. W. Siegwolf, and C. Körner, 2004:

The fate of carbon in deciduous trees.

Swiss Canopy Crane workshop, Basel, Switzerland.

Keel, S. G., R. T. W. Siegwolf, and C. Körner, 2004:

Routes and rates of C-input in a temperate deciduous forest demonstrated by a large scale ^{13}C tracer experiment.

5th Swiss Global Change Day, Bern, Switzerland.

Keel, S. G., R. T. W. Siegwolf, and C. Körner, 2004:

Routes and rates of C-input in a temperate deciduous forest demonstrated by a large scale ^{13}C tracer experiment.

ZOek conference, Davos, Switzerland.

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Routes and rates of C-input in a temperate deciduous forest demonstrated by a large scale ¹³C tracer experiment.

Symposium der Kommission für Atmosphärenchemie und -physik der SANW, Sarnen, Switzerland.

Keller, J., 2004:

Hydrogen Related Activities at PSI (General Energy) and Air Quality Modeling to Assess the Impacts of a Hydrogen Economy on the Environment.

HyCARE Meeting, Max Planck Institute for Meteorology, Hamburg, Germany.

Keller, J., S. Andreani-Aksoyoglu, M. Tinguely, and A. Prevot, 2004:

Influence of Reducing the Highway Speed Limit to 80 km/h on Ozone in Switzerland.

Paul Scherrer Institut, Villigen PSI, 35.

Keller, J., S. T. Andreani-Aksoyoglu, M., and A. S. H. Prévôt, 2004:

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last updated: 2006-05-03

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