

## **Publication list**

### **Refereed Publications**

Balin, I., Gilles Larchevêque, Philippe Quaglia, Valentin Simeonov, Hubert van den Bergh, and Bertrand Calpini, "Water vapor vertical profile by Raman lidar in the free troposphere from the Jungfraujoch Alpine Station", in: "Advances in global change research", Kluwer Academic Publishers, Dordrecht (The Netherlands) and Boston (USA), vol. 9, 2001.

Baltensperger, U., The art of aerosol measurement and modelling within AEROSOL, Proc. Eurotrac-2 Symposium 2000, Garmisch-Partenkirchen, Germany, Springer-Verlag Berlin Heidelberg 2001, 39-44 (2001).

Barret, B., M. De Mazière, P. Demoulin, Retrieval and characterisation of ozone profiles from solar infrared spectra at the Jungfraujoch", submitted to J. Geophys. Res., 2001.

Bensch F., Panis J.-F., Stutzki J., Heithausen A., Falgarone E.: 2001, The IRAM key-project: Small-scale structure of pre-star forming regions. III. Influence of and correction for the error beam pick-up, *A&A*, 365, 275.

Bensch F., Stutzki J., Heithausen A.: 2001, Methods and constraints for the correction of the error beam pick-up in single dish radio observations, *A&A*, 365, 285.

Brockmann E. and Wiget A. (2001): LAC Analysis Center Report. EUREF Permanent Networks. 3<sup>rd</sup> Local Analysis Center Workshop 31 May - 1 June 2001, Reports on Geodesy, No. 3 (58), 2001.

Brockmann E., Calais E., Nocquet J.-M., Caporali A., Vespe F., Weber G., Weber R. and Stangl G. (2001): Alpine Network. EUREF Permanent Networks. 3<sup>rd</sup> Local Analysis Center Workshop 31 May - 1 June 2001, Reports on Geodesy, No. 3 (58), 2001.

Brockmann E., Grünig S., Schneider D., Wiget A. and Wild U. (2001): National report of Switzerland: Introduction and first applications of a Real-Time Precise Positioning Service using the Swiss Permanent Network 'AGNES'. In Torres, J.A. and H. Hornik (Eds): Subcommission for the European Reference Frame (EUREF). EUREF Publication Nr. 10, München 2001.

Brockmann E., Guerova G. and Troller M. (2001): Swiss Activities in combining GPS with Meteorology. In Torres, J.A. and H. Hornik (Eds): Subcommission for the European Reference Frame (EUREF). EUREF Publication Nr. 10, München 2001.

Burtscher, H., U. Baltensperger, N. Bukowiecki, C. Hüglin, M. Mohr, U. Matter, S. Nyeki, N. Streit, E. Weingartner, Separation of volatile and non-volatile aerosol fractions by thermodesorption: Instrumental development and applications, *J. Aerosol Sci.*, 32, 427-442 (2001).

Carraro, G.; Hassan, S. M.; Ortolani, S.; Vallenari, A.: An optical and near IR study of the old open cluster NGC 2141, *A&A* 372, 879, 2001.

Castro, C.G., J.P. Raulin, C.H. Mandrini, P. Kaufmann and A. Magun, "Multi-resolution wavelet analysis of high time resolution millimeter wave observations of solar bursts", *A & A*, 366, 317-325, 2001.

Ehrman, S.H., M. Schwikowski, U. Baltensperger, H.W. Gäggeler, Sampling and chemical analysis of ice crystals as a function of size, *Atmos. Environ.*, 35, 5371-5376 (2001).

Guerova G., Brockmann E., Quiby J., Schubiger F. and Matzler Ch. (2001): Validation of NWP mesoscale models with Swiss GPS Network AGNES. Accepted for publication in *Journal of Applied Meteorology*, 2001 (in prep.).

Henning, S., E. Weingartner, S. Schmidt, M. Wendisch, U. Baltensperger, Results from simultaneous measurements of aerosol and cloud parameters at the Jungfraujoch, *J. Aerosol Sci.*, 32, Suppl. 1, S975-S976 (2001).

Henning, S., E. Weingartner, S. Schmidt, M. Wendisch, H.W. Gäggeler, U. Baltensperger, Size-dependent aerosol activation at the high-alpine site Jungfraujoch (3580 m asl), *Tellus 53B*, in press (2001).

Hoffer, A., A. Gelencser, A. Molnar, E. Weingartner, U. Baltensperger, Comparative study on the concentration and mass absorption of black carbon aerosol at the Jungfraujoch, *J. Aerosol Sci.*, 32, Suppl. 1, S679-S680 (2001).

Jeanneret, F., Frank Kirchner, Alain Clappier, Hubert van den Bergh, and Bertrand Calpini. Total VOC Reactivity in the Planetary Boundary Layer, Part One: Estimation by a Pump and Probe OH Experiment; *J. Geophys. Res.*, 106, pp. 3083-3094, 2001.

Krivácsy, Z., A. Gelencsér, G. Kiss, E. Mészáros, Á. Molnár, A. Hoffer, T. Mészáros, Z. Sárvári, D. Temesi, B. Varga, U. Baltensperger, S. Nyeki, E. Weingartner, Study on the chemical character of water-soluble organic compounds in fine atmospheric aerosol at the Jungfraujoch, *J. Atmos. Chem.*, 39, 235-259 (2001).

Krivácsy, Z., A. Hoffer, Zs. Sárvári, D. Temesi, Baltensperger, S. Nyeki, E. Weingartner S. Kleefeld, S.G. Jennings, Role of organic and black carbon in the chemical composition of atmospheric aerosol at European background sites, *Atmos. Environ.*, 39, 6231-6244 (2001).

Larchevêque, Gilles, Ioan Balin, Remo Nessler, Philippe Quaglia, Valentin Simeonov, Hubert van den Bergh, and Bertrand Calpini, "Development of a multiwavelength aerosol and water vapor lidar at the Jungfraujoch Alpine Station (3580m ASL) in Switzerland", Submitted to *Applied Optics*, October 2001.

Lazzarotto, B., M. Frioud, G. Larchevêque, V. Mitev, P. Quaglia, V. Simeonov, A. Thompson, H. van den Bergh, and B. Calpini, "Raman-DIAL O<sub>3</sub> and H<sub>2</sub>O measurements in the planetary boundary layer"; *Applied optics*, 40, 18, pp.2985-2997, 2001.

Masetti, N., et al: GRB010222: Afterglow emission from a rapidly decelerating shock, *A&A* 374, 382, 2001.

Moriondo, G., et al.: Near-infrared observations of galaxies in Pisces-Perseus. IV. Color maps of 41 cluster spirals, *A&A* 370, 881, 2001.

Nessler, R., G. Larcheveque, I. Barlin, N. Bukowiecki, E. Weingartner, U. Baltensperger, H. van den Bergh, B. Calpini, Study of the tropospheric aerosol at the Jungfraujoch alpine station by mean of simultaneous lidar and in-situ measurements, *J. Aerosol Sci.*, 32, Suppl. 1, S447-S448 (2001).

Papayannis, A., and EARLINET community, "First continental-scale vertical profile measurements of free tropospheric Saharan dust particles performed by a coordinated ground-based European lidar network (EARLINET Project)", submitted to *Journal of Geophysical Research* (Nov 2001)

Richichi, A.; Calamai, G.: Infrared high angular resolution measurements of stellar sources. V. Angular diameters of ten late-type stars, in press.

Rinsland, C. P., A. Goldman, R. Zander, and E. Mahieu, Enhanced Tropospheric HCN Columns above Kitt Peak during the 1982-1983 and 1997-1998 El Niño Warm Phases, *J. Quant. Spectrosc. Radiat. Transfer*, 69, 3-8, 2001.

Schuepbach E., S.S. Liebermann, D. Schneiter, P. Zanis, P. Jeannet, P.S. Monks, and S.A. Penkett. Establishing the transport history of trace gases measured in the Alps. *Atmospheric Environment*, submitted, 2001.

Schuepbach E., T.K. Friedli, P. Zanis, P.S. Monks, and S.A. Penkett. State space analysis of trends and seasonalities of lower free tropospheric ozone (1988-1997) at the high elevation site at Jungfraujoch; *Journal of Geophysical Research*, 106(D17), 20,413-20,427, 2001.

Siegenthaler, A., O. Lezeaux, D. Feist and N. Kämpfer, First water vapor measurements at 183 GHz from the high alpine station Jungfraujoch, *IEEE Trans. on Geosci. and remote sensing*, Vol. 39, No. 9, pp. 2084-2087, 2001.

Stutzki J.: The structure of molecular clouds and their global emission properties, *APSS*, 277, 39, 2001.

Tieftrunk, A., et al.,  $^{13}\text{C}$ I in high-mass star-forming clouds, *A&A* 375, L23, 2001.

Wilson T. L., Muders D., Kramer C., Henkel C.: Submillimeter CO Line Emission from Orion, *AP.J.*, 557, 240, 2001.

### **Conference papers and presentations**

Anderson, J., J. M. Russell III, R. Zander, C. P. Rinsland, F. J. Murcray, J. Notholt, N. B. Jones, E. Mahieu and P. Duchatelet, A Unified Stratospheric Column HCl Climatology Constructed from HALOE and NDSC Measurements, poster presented at the NDSC 2001 Symposium, Arcachon, Sept. 24-27, 2001.

Barret, B., M. De Mazière, E. Mahieu, and P. Demoulin, Characterisation of ozone profiles retrieved from solar infra red spectra at the Jungfraujoch, poster presented at the EGS XXVI Assembly, Nice, March 25-30, 2001.

Barret, B., M. De Mazière, E. Mahieu, and P. Demoulin, Characterisation of ozone profiles retrieved from solar infrared spectra at the Jungfraujoch, poster presented at the EGS XXVI Assembly, Nice, March 25-30, 2001.

Barret, B., M. De Mazière, P. Demoulin, Retrieval and characterisation of ozone profiles from solar infrared spectra at the Jungfraujoch, poster presented at the NDSC 2001 Symposium, Arcachon, Sept. 24-27, 2001.

Barret, B., M. De Mazière, P. Demoulin, Retrieval and characterisation of ozone profiles from solar infrared spectra at the Jungfraujoch, poster presented at the NDSC 2001 Symposium, Arcachon, Sept. 24-27, 2001.

Bell, W., C. Murphy, P. Woods, P. Demoulin, B. Galle, J. Mellqvist, W. Arlander, J. Notholt, A. Goldman, G. C. Toon, J.-F. Blavier, B. Sen, M. T. Coffey, J. W. Hannigan, W. G. Mankin, N. Jones, D. Griffith, A. Meier, T. Blumenstock, H. Fast, R. Mittermeier and Y. Makino, Validation of NDSC FTIR Measurements of Ozone, Reservoir Compounds, and Dynamical Tracers: Results of a Series of Side-by-Side Instrument Intercomparisons, poster presented at the NDSC 2001 Symposium, Arcachon, Sept. 24-27, 2001.

Belov, A.V., R. Bütikofer, E.A. Eroshenko, E.O. Flückiger, and V.G. Yanke; Analysis of the July 14, 2000, GLE; Proc. 27<sup>th</sup> International Cosmic Ray Conference 8, 3362, 2001.

Bütikofer, R., E.O. Flückiger, Y. Muraki, Y. Matsubara, T. Sako, H. Tsuchiya, and T. Sakai; The upgraded solar neutron detector at Gornergrat, Proc. 27<sup>th</sup> International Cosmic Ray Conference 8, 3053-3055, 2001.

De Mazière, M., Invited seminar at the Institut für Meteorologie und Klimaforschung, Forschungszentrum Karlsruhe, Trace gas measurements at the Jungfraujoch by Fourier transform infrared and UV-Visible spectrometry, Jan. 16, 2001.

Demoulin, P., E. Mahieu, R. Zander, B. Rognerud, I. Isaksen, and M. De Mazière, The NO<sub>y</sub> budget above the Jungfraujoch: Long-term evolution, family partitioning and model comparison, poster presented at the NDSC 2001 Symposium, Arcachon, Sept. 24-27, 2001.

Demoulin, P., E. Mahieu, R. Zander, B. Rognerud, I. Isaksen, and M. De Mazière, The NO<sub>y</sub> budget above the Jungfraujoch: Long-term evolution, family partitioning and model comparison, poster presented at the NDSC 2001 Symposium, Arcachon, Sept. 24-27, 2001.

Flückiger, E.O., R. Bütikofer, A. Chilingarian, G. Hovsepyan, Y. Muraki, Y. Matsubara, T. Sako, H. Tsuchiya, and T. Sakai; Search for solar neutrons in association with large solar flares in July 2000 and March/April 2001, Proc. 27<sup>th</sup> International Cosmic Ray Conference 8, 3044-3047, 2001.

Henning, S., E. Weingartner, S. Schmidt, H.W. Gäggeler, U. Baltensperger, Aerosol-clouds interactions at the high alpine site Jungfraujoch (3580 m asl) - experimental data and modelling results, Proc. European Geophysical Society XXVI General Assembly, Nice, France, CD-ROM (2001).

Lüthi, Th., M. Miller, A. Magun and A. Murk, "First observations of a solar x-class flare in the submillimeter range with KOSMA", CESRA Workshop on Particle Acceleration in the Solar Corona, 2-6 July, Ringberg Castle, Germany, 2001.

Mahieu, E., R. Zander, F. Mélen, P. Demoulin, P. Duchatelet, C. Servais, B. Rognerud, I. Isaksen, C. P. Rinsland and D. B. Considine, FTIR Observations and Model Calculations of the Evolution of Inorganic Chlorine and Fluorine above the Jungfrauoch, poster presented at the NDSC 2001 Symposium, Arcachon, Sept. 24-27, 2001.

Mannucci, F.: The TIRGO telescope, presentation at the Italian Nation Congress on Infrared Astronomy, Perugia, 4-7 Dec. 2001.

Marel H., Brockmann E., Calais E., Dousa J., Gendt G., Ge M., de Haan S., Higgins M., Johansson J., Offiler D., Pacione R., Rius A. And Vespe F. (2001): The COST-716 Benchmark GPS Campaign for Numerical Weather Prediction Applications. EGS General Assembly, Nice, 29 March 2001. Geodesy and Meteorology, Publication in prep.

Murk, A., A. Magun, N. Kämpfer et al., "Characterisation of various quasi-optical Components for the Submillimeter Limb-Sounder SMILES", 12th Int. Symp. On Space Terahertz Technology, San Diego, USA, 2001.

Ricaud, P., M. Chipperfield, J. M. Russell III, E. Mahieu, R. Zander and P. Demoulin, Studies of Stratospheric Halogen Evolution, poster presented at the NDSC 2001 Symposium, Arcachon, Sept. 24-27, 2001.

Rinsland, C. P., R. Zander, E. Mahieu, P. Demoulin, N. B. Jones, A. Goldman, T. M. Stephen, F. J. Murcray, L. S. Chiou, J. M. Russell III, J. Anderson, R. Sussmann and J. Notholt, Stratospheric Inorganic Chlorine Decline from Ground-Based IR HCl and ClONO<sub>2</sub> Measurements at 6 NDSC Stations, poster presented at the NDSC 2001 Symposium, Arcachon, Sept. 24-27, 2001.

Russell III, J. M., J. Anderson, R. Zander, C. P. Rinsland, F. Murcray, N. Jones and P. Demoulin, HALOE and NDSC Comparisons of Long-Term Changes in Stratospheric Constituents, poster presented at the NDSC 2001 Symposium, Arcachon, Sept. 24-27, 2001.

Tieftrunk, A., S. Thorwirth, T. Megeath, High-Mass Stars as Early Signpost of Cluster Formation, The Earliest Phases of Massive Star Birth, ASP Conf. Series, Boulder 2001.

Van Roozendaal, M., F. Hendrick, M. De Mazière, D. Fonteyn, B.-M. Sinnhuber, and M. Chipperfield, Comparison between time-series of measurements and 3D model simulations of NO<sub>2</sub> slant columns at Jungfrauoch (46°N), Observatoire de Haute Provence (44°N) and Harestua (60°N), poster presented at the Nox/Noy workshop, Heidelberg, Germany, 19-22 March 2001.

Wegmann, M., M. Funk, A. Flotron and H.R. Keusen, Movement studies to forecast the time of breaking off of ice and rock masses, in proceedings of the IDNDR-Conference on Early Warning Systems for the Reduction of Natural Disasters, in press, Springer Verlag.

Zanis, P., P. S. Monks, E. Schuepbach, L. J. Carpenter, T. Green, G. Mills, and S. A. Penkett, Photochemical control of ozone on a seasonal basis at the Jungfrauoch based on observations and model calculations, in Proceedings "A Changing Atmosphere"- 8th European Symposium on the Physico-Chemical Behaviour of Atmospheric Pollutants, Torino, Italy, 17-20 September 2001, in press, 2001.

### **Theses**

Bedorf, S.: Strukturanalyse von Molekülwolken am Beispiel der Sternentstehungsregion S106, Mai 2001 (Diploma thesis) (I. Physikalisches Institut, Universität zu Köln).

Brüll, M., Großräumige CO-Kartierung von Teilen des Galaktischen Rings mit KOSMA (2001) (PhD Thesis)

Lehmann, A., 2001. Direct and diffuse components of erythral irradiance: measurements and modelling for clear-sky conditions. Ph.D. thesis, Swiss Federal Institute of Technology Zurich, Institute for Atmospheric and Climate Science, Winterthurerstrasse 190, CH-8057 Zurich, Switzerland.

Marty, Chr.: Surface Radiation, Cloud Forcing and Greenhouse Effect in the Alps. Zürcher Klima-Schriften, Institut für Klimaforschung ETH, Diss. ETHZ 13'609, pp.122, ISBN 3 906 148 27 0 (2001).

Müller, A.: Kohlenstoff in Photonen-dominierte Regionen, Juli 2001 (Diploma thesis) (I. Physikalisches Institut, Universität zu Köln).

Sturm, P., Hygroskopisches Verhalten und wasserlöslicher Anteil atmosphärischer Aerosolpartikel im Radiusbereich 5 nm bis 2 µm, (2001)(diploma thesis) Physikalisches Institut, Universität Bern.

### **Data books and reports**

<sup>10</sup>Be/<sup>7</sup>Be ratios at the high-alpine site Jungfrauoch; Schnabel, C., PSI Scientific report 2000, 1, Particles and Matter, page 185 (2001).

Activity Report 1999/2000; International Foundation High Altitude Research Stations Jungfrauoch + Gornergrat; Bern, Switzerland, 2001.

Annalen der MeteoSchweiz 2000; MeteoSchweiz, 2001.

Annalen der Schweizerischen Meteorologischen Anstalt 1999; MeteoSchweiz, 2001.

Annual report 2000: Labor für Radio- und Umweltchemie der Uni Bern und des PSI; (January 2001).

Data of the 18IGY-Neutron Monitor Jungfrauoch, 01.01. - 30.06.2001.

Data of the 18IGY-Neutron Monitor Jungfrauoch, 01.07. - 31.12.2001.

Data of the 3NM64 Neutron Monitor Jungfrauoch, 01.01. - 30.06.2001.

Data of the 3NM64 Neutron Monitor Jungfrauoch, 01.07. - 31.12.2001.

Hygroskopisches Verhalten und wasserlöslicher Anteil atmosphärischer Aerosolpartikel im Radiusbereich 5 nm bis 2 µm, Bernhard Busch, Förderschwerpunkt: Atmosphärische Aerosolforschung, Bericht 2000, GSF München (2001).

Kenyeres A., Bosy J., Brockmann E., Bruyninx C., Caporali A., Hefty J., Jivall L., Kusters A., Poutanen M., Rui F. and Stangl G. (2001): EPN Special Project on "Time series analysis..." Preliminary Results and Future Prospects. EUREF Publication Nr. 10, München 2001.

NABEL, Luftbelastung 2000; Schriftenreihe Umwelt Nr. 330 Luft; Bundesamt für Umwelt, Wald und Landschaft, Bern 2001.

Neutron Monitor Data for Jungfrauoch and Bern During the Ground-Level Solar Cosmic Ray Event on 15 April 2001.

North-south deposition gradients of trace species in the Alps, Eichler, A., PSI Scientific report 2000, 1, Particles and Matter, page 141 (2001).

Probenahmeplan 2001: Überwachung der Umweltradioaktivität in der Schweiz; Bundesamt für Gesundheit; Ausgabe 12.01.2001.

Star calibration of the HESSI roll angle system (RAS), Henneck, R., PSI Scientific report 2000, 1, Particles and Matter, page 40. (2001).

Umweltradioaktivität und Strahlendosen in der Schweiz 2000; Bundesamt für Gesundheit, 2001.

### **Public outreach / Popular publications**

Angewandte Forschung und Entwicklung an der HTA Burgdorf; Broschüre mit CD und Kontaktadressen. Presentation of the PV-Plant at the Research Station Jungfrauoch.

CD EPFL and Lidar at Jungfrauoch (French and English, mpg clips).

GPS-Meteorologie; Kolloquium, February 23, 2001; Landestopographie, Seftigenstrasse 264, 3084 Wabern.

HESSI Info; Ming, P., Information sheets from Paul Scherrer Institut, May 21 and 28, 2001.

"Jungfrau" Exhibition in the Heimatmuseum Wilderswil; presentation of current experiments at the Research Station Jungfrauoch; summer 2001.

Jungfrauoch-Kommission: Internationale Klimaforschung auf dem Jungfrauoch; SANW Jahresbericht 2000 (2001).

La radioactivité artificielle; Pour la Science: Nov 2001-Fév 2002, No. 9 "Les Curie" p. 61-62.

LIDAR Contribution to the “Brochure Jungfraujoeh” (in preparation).

LIDAR Guided Visits: ENVINET (April’2001), students (e.g. Uni.Bern, EPFL-DGR, etc), associations/clubs (CALISTA), and many lidar related scientists over the world (USA, Japon, etc).

LIDAR Professional Photos/Videos, Clips (mpg) of lidar system at Jungfraujoeh.

LIDAR TV/Radio: TSR, Tele24, Fr3, etc.

LIDAR WEB dedicated site: <http://dgrwww.epfl.ch/PAS/lidar/Jungfrau.html>.

Photo report on LIDAR experiment at Jungfraujoeh; FLASH Journal interne d’information et d’opinion EPFL 10.04.2001 no. 5.

Praktikumsbericht; Farina König, Tübingen, Germany; report on practical training at Observatory Gornergrat South, October 2001.

Top of Europe Jungfraujoeh; Ryf, Tschanz, Hostettler; Abschlussarbeit Berufsschule Bern, 2001.

Video Cassette EPFL and Lidar at Jungfraujoeh (English).

Video Cassette EPFL and Lidar at Jungfraujoeh (French).