

Publications in 2005 and 2006

A. Publications in international peer-reviewed journals with impact factor

Akalin, F., Gurnett, D. A., Averkamp, T. F., Persoon, A. M., **Santolík, O.**, Kurth, W. S., Hospodarsky, G. B. (2006) The first whistler observed in the magnetosphere of Saturn. *Geophysical Research Letters*, 33, L20107.

Aubinet, M., Berbigier, P., Bernhofer, C., Cescatti, A., Feigenwinter, C., Granier, A., Grünwald, T., Havránková, K., Heinesch, B., Longdoz, B., Marcolla, B., Montagnani, L., **Sedlák, P.** (2005) Comparing CO₂ Storage and Advection Conditions at Night at Different Carboeuroflux Sites. *Boundary Layer Meteorology*, 116, 63-94.

Beranová, R., Huth, R. (2005) Long-term changes in the heat island of Prague under different synoptic conditions. *Theoretical and Applied Climatology*, 82, 113-118.

Blanch, E., Altadill, D., **Boška, J., Burešová, D.**, Hernández-Pajares, M. (2005) November 2003 event: effects on the Earth's ionosphere observed from ground-based ionosonde and GPS data. *Annales Geophysicae*, 23, 3027-3034.

Burešová, D. (2005) Effects of geomagnetic storms on the bottomside ionospheric F region. *Advances in Space Research*, 35, 429-439.

Burešová, D., Cander, L. R., Vernon, A., Zolesi, B. (2006) Effectiveness of the IRI-2001-predicted N(h) profile updating with real-time measurements under intense geomagnetic storm conditions over Europe. *Advances in Space Research*, 37, 1061-1068.

Cao, J. B., Liu, Z. X., Yang, J. Y., Yian, C. X., Wang, Z. G., Zhang, X. H., Wang, S. R., Chen, S. W., Bian, W., Dong, W., Zhang, Z. G., Hua, F. L., Zhou, L., Cornilleau-Wehrin, N., de Laporte, B., Parrot, M., Alleyne, H., Yearby, K., **Santolík, O.**, Mazelle, C. (2005) First results of low frequency electromagnetic wave detector of TC-2/Double Star program. *Annales Geophysicae*, 23, 2803-2811.

Chugunov, Yu. V., **Fiala, V.** (2006) Effective Length of a Receiving Antenna in a Streaming Plasma. *IEEE Transactions on Antennas and Propagation*, 54, 2750-2756.

Chugunov, Yu. V., **Fiala, V., Souček, J., Santolík, O.** (2006) Noise induced on an electric antenna and its effective length in solar wind: Application to CLUSTER observations. *Advances in Space Research*, 37, 1538-1543.

Chum, J., Jiříček, F., Santolík, O., Parrot, M., Diendorfer, G., **Fišer, J.** (2006) Assigning the causative lightning to the whistlers observed on satellites. *Annales Geophysicae*, 24, 2921-2929.

Chum, J., Jiříček, F., Šmilauer, J. (2005) Nonducted propagation of chorus emissions and their observation. *Planetary and Space Science*, 53, 307-315.

Chum, J., Santolík, O. (2005) Propagation of whistler-mode chorus to low altitudes: divergent ray trajectories and ground accessibility. *Annales Geophysicae*, 23, 3727-3738.

Drobzheva, Y. V., Krasnov, V. M. (2006) Acoustic energy transfer to the upper atmosphere from surface chemical and underground nuclear explosions. *Journal of Atmospheric and Solar-Terrestrial Physics*, 68, 578-585.

Dubrovský, M., Nemešová, I., Kalvová, J. (2005) Uncertainties in climate change scenarios for the Czech Republic. *Climate Research*, 29, 139-156.

- Fišák, J.**, Skřivan, P., Tesař, M., Fottová, D., Dobešová, I., Navrátil, T. (2006) Forest vegetation affecting the deposition of atmospheric elements to soils. *Biologia*, 61, Suppl. 19, S255-S260.
- Fišák, J., Řezáčová, D.**, Mattanen, J. (2006) Calculated and measured values of liquid water content in clean and polluted environments. *Studia geophysica et geodaetica*, 50, 121-130.
- Fišer, O.**, Květoň, V. (2006) Stability of rain-rate distribution: how many years to measure? *Electronics Letters*, 42, 567-569.
- Hellinger, P., Trávníček, P.** (2005) Magnetosheath compression: Role of characteristic compression time, alpha particle abundance, and alpha/proton relative velocity. *Journal of Geophysical Research*, 110, A04210, doi:10.1029/2004JA010687.
- Hellinger, P., Trávníček, P.** (2006) Parallel and oblique proton fire hose instabilities in the presence of alpha/proton drift: Hybrid simulations. *Journal of Geophysical Research*, 111, A01107, doi:10.1029/2005JA011318.
- Hellinger, P., Trávníček, P.**, Kasper, J. C., Lazarus, A. J. (2006) Solar wind proton temperature anisotropy: Linear theory and WIND/SWE observations. *Geophysical Research Letters*, 33, L09101, doi:10.1029/2006GL025925.
- Hellinger, P.**, Velli, M., **Trávníček, P.**, Gary, S. P., Goldstein, B. E., Liewer, P. C. (2005) Alfvén wave heating of heavy ions in the expanding solar wind: Hybrid simulations. *Journal of Geophysical Research*, 110, A12109.
- Huth, R.** (2005) Downscaling of humidity variables: a search for suitable predictors and predictands. *International Journal of Climatology*, 25, 243-250.
- Huth, R.** (2006a) The effect of various methodological options on the detection of leading modes of sea level pressure variability. *Tellus Series A-Dynamic Meteorology and Oceanography*. 58A, 121-130.
- Huth, R.** (2006b) A method for finding the station where climatic trends are most representative for a region. *International Journal of Climatology*, 26, 523-530.
- Huth, R.** (2006c) Pacific centre of the Arctic Oscillation: product of high local variability rather than teleconnectivity. *Tellus Series A-Dynamic Meteorology and Oceanography*, 58A, 601-604.
- Huth, R., Pokorná, L.** (2005) Simultaneous analysis of climatic trends in multiple variables: an example of application of multivariate statistical methods. *International Journal of Climatology*, 25, 469-484.
- Huth, R., Pokorná, L.**, Bochníček, J., Hejda, P. (2006) Solar cycle effects on modes of low-frequency circulation variability. *Journal of Geophysical Research*, 111, doi:10.1029/2005JD006813, D22107.
- Krasnov, V. M., Drobzheva, Y. V.** (2005) The acoustic field in the ionosphere caused by an underground nuclear explosion. *Journal of Atmospheric and Solar-Terrestrial Physics*, 67, 913-920.
- Krasnov, V. M., Drobzheva, Y. V., Laštovička, J.** (2006) Recent advances and difficulties of infrasonic wave investigation in the ionosphere. *Surveys in Geophysics*, 27, 169-209.
- Križan, P., Laštovička, J.** (2005) Trends in positive and negative ozone laminae in the Northern Hemisphere. *Journal of Geophysical Research*, 110, D10107.
- Križan, P., Laštovička, J.** (2006) Ozone laminae: Comparison of the Southern and Northern Hemisphere, and tentative explanation of trends. *Journal of Atmospheric and Solar-Terrestrial Physics*, 68, 1962-1972.

- Kyselý, J., Domonkos, P.** (2006) Recent increase in persistence of atmospheric circulation over Europe: comparison with long-term variations since 1881. *International Journal of Climatology*, 26, 461-483.
- Kyselý, J., Dubrovský, M.** (2005) Simulation of extreme temperature events by a stochastic weather generator: effects of interdiurnal and interannual variability reproduction. *International Journal of Climatology*, 25, 251-269.
- Kyselý, J., Huth, R.** (2006) Changes in atmospheric circulation over Europe detected by objective and subjective methods. *Theoretical and Applied Climatology*, 85, 19-36.
- Landi, S., **Hellinger, P.**, Velli, M. (2006) Heliospheric magnetic field polarity inversions driven by radial velocity field structures. *Geophysical Research Letters*, 33, L14101, doi: 10.1029/2006GL026308, 1-5.
- Laštovička, J.** (2005a) Progress in trend studies: Highlights of the TREND2004 Workshop. *Advances in Space Research*, 35, 1359-1365.
- Laštovička, J.** (2005b) On the role of solar and geomagnetic activity in long-term trends in the atmosphere-ionosphere system. *Journal of Atmospheric and Solar-Terrestrial Physics*, 67, 83-92.
- Laštovička, J.** (2006) Forcing of the ionosphere by waves from below. *Journal of Atmospheric and Solar-Terrestrial Physics*, 68, 479-497.
- Laštovička, J., Akmaev, R. A., Beig, G., Bremer, J., Emmert, J. T.** (2006a) Global Change in the Upper Atmosphere. *Science*, 314, 5803, 1253-1254.
- Laštovička, J., Križan, P.** (2005) Geomagnetic storms, Forbush decreases of cosmic rays and total ozone at northern higher middle latitudes. *Journal of Atmospheric and Solar-Terrestrial Physics*, 67, 119-124.
- Laštovička, J., Križan, P.** (2006) Trends in laminae in ozone profiles in relation to trends in some other middle atmospheric parameters. *Physics and Chemistry of the Earth*, 31, 46-53.
- Laštovička, J., Mikhailov, A. V., Ulich, T., Bremer, J., Elias, A. G., Ortiz de Adler, N., Jara, V., Abarca del Rio, R., Foppiano, A. J., Ovalle, E., Danilov, A. D.** (2006b) Long-term trends in foF2: A comparison of various methods. *Journal of Atmospheric and Solar-Terrestrial Physics*, 68, 1854-1870.
- Matteini, L., Landi, S., **Hellinger, P.**, Velli, M. (2006) Parallel proton fire hose instability in the expanding solar wind: Hybrid simulations. *Journal of Geophysical Research*, 111, doi:10.1029/2006JA011667, A10101.
- Menietti, J. D., Mutel, R. L., **Santolík, O.**, Scudder, J. D., Christopher, I. W., Cook, J. M. (2006) Striated drifting auroral kilometric radiation bursts: Possible stimulation by upward traveling EMIC waves. *Journal of Geophysical Research*, 111, A04214, doi:10.1029/2005JA011339.
- Menietti, J. D., **Santolík, O.**, Pickett, J. S., Gurnett, D. A. (2005) High resolution observations of continuum radiation. *Planetary and Space Science*, 53, 283-290.
- Měrka, J., Šafránková, J., Němeček, Z., **Šimůnek, J.** (2005) Magion-4 High-Altitude Cusp Study. *Surveys in Geophysics*, 26, 57-69.
- Němec, F., Santolík, O., Parrot, M., Berthelier, J. J.** (2006) Power line harmonic radiation (PLHR) observed by the DEMETER spacecraft. *Journal of Geophysical Research*, 111, A04308, doi:10.1029/2005JA011480.
- Paluš, M., **Novotná, D.** (2006) Quasi-Biennial Oscillations Extracted from the Monthly NAO Index and Temperature Records are Phase-Synchronized. *Nonlinear Processes in Geophysics*, 13, 287-296.

- Paluš, M., **Novotná, D.**, Tichavský, P. (2005) Shifts of Seasons at the European Mid-latitudes: Natural Fluctuations Correlated with the North Atlantic Oscillations. *Geophysical Research Letters*, 32, L12805.
- Pickett, J. S., Chen, L. J., Kahler, S. W., **Santolík, O.**, Goldstein, M. L., Lavraud, B., Décréau, P. M. E., Kessel, R., Lucek, E., Lakhina, G. S., Tsurutani, B. T., Gurnett, D. A., Cornilleau-Wehrin, N., Fazakerley, A., Reme, H., Balogh, A. (2005) On the generation of solitary waves observed by Cluster in the near-Earth magnetosheath. *Nonlinear Processes in Geophysics*, 12, 181-193.
- Prot, O., **Santolík, O.**, Trotignon, J. G., Deferaudy, H. (2006) An Entropy Regularization Method Applied to the Identification of Wave Distribution Function for an ELF Hiss Event. *Journal of Geophysical Research*, 111, A06213, doi:10.1029/2005JA011006.
- Rebmann, C., Göckede, M., Foken, T., Aubinet, M., Aurela, M., Berbigier, P., Bernhofer, C., Buchmann, N., Carrara, A., Cescatti, A., Ceulemans, R., Clement, R., Elbers, J. A., Granier, A., Grünwald, T., Guyon, D., Havránková, K., Heinesch, B., Knohl, A., Laurila, T., Longdoz, B., Marcolla, Barbara, Markkanen, T., Miglietta, F., Moncrieff, J., Montagnani, L., Moors, E., Nardino, M., Ourcival, J.-M., Rambal, S., Rannik, Ü., Rotenberg, E., **Sedláč, P.**, Unterhuber, G., Vesala, T., Yakir, D. (2005) Quality analysis applied on eddy covariance measurements at complex forest sites using footprint modelling. *Theoretical and Applied Climatology*, 80, 121-141.
- Řezáčová, D.**, **Kašpar, M.**, **Müller, M.**, **Sokol, Z.**, **Kakos, V.**, **Hanslian, D.**, **Pešice, P.** (2005a) A comparison of the flood precipitation episode in August 2002 with historic extreme precipitation events on the Czech territory. *Atmospheric Research*, 77, 354-366.
- Řezáčová, D.**, **Pešice, P.**, **Sokol, Z.** (2005b) An estimation of the probable maximum precipitation for river basins in the Czech Republic. *Atmospheric Research*, 77, 407-421.
- Santolík, O.**, **Chum, J.**, Parrot, M., Gurnett, D. A., Pickett, J. S., Cornilleau-Wehrin, N. (2006a) Propagation of whistler mode chorus to low altitudes: Spacecraft observations of structured ELF hiss. *Journal of Geophysical Research*, 111, A10208, doi:10.1029/2005JA011462.
- Santolík, O.**, Macušová, E., Yearby, K. H., Cornilleau-Wehrin, N., Alleyne, H. StC. K. (2005a) Radial variation of whistler-mode chorus: first results from the STAFF/DWP instrument on board the Double Star TC-1 spacecraft. *Annales Geophysicae*, 23, 2937-2942.
- Santolík, O.**, **Němec, F.**, Parrot, M., Lagoutte, D., Madrias, L., Berthelier, J. J. (2006b) Analysis methods for multi-component wave measurements on board the DEMETER spacecraft. *Planetary and Space Science*, 54, 512-527.
- Santolík, O.**, Persoon, A. M., Gurnett, D. A., Décréau, P. M. E., Pickett, J. S., Maršálek, O., Maksimovic, M., Cornilleau-Wehrin, N. (2005b) Drifting field-aligned density structures in the night-side polar cap. *Geophysical Research Letters*, 32, L06106, doi:10.1029/2004GL021696.
- Sokol, Z.** (2006a) MOS based forecast of 6-hourly area precipitation. *Studia geophysica et geodaetica*, 50, 105-120.
- Sokol, Z.** (2006b) Nowcasting of 1-h precipitation using radar and NWP data. *Journal of Hydrology*, 328, 200-211.
- Sokol, Z.**, **Řezáčová, D.** (2006a) Assimilation of radar reflectivity into the LM COSMO model with a high horizontal resolution. *Meteorological Applications*, 13, 317-330.
- Souček, J.**, Krasnoselskikh, V., Dudok de Wit, T., Pickett, J., Kletzing, C. (2005) Nonlinear decay of foreshock Langmuir waves in the presence of plasma inhomogeneities: Theory and

Cluster observations. *Journal of Geophysical Research*, 110, A08102, doi:10.1029/2004JA010977.

Sotnikov, V. I., Leboeuf, J. N., Deeney, C., Coverdale, C. A., **Hellinger, P.**, **Trávníček, P.**, **Fiala, V.** (2005) Hybrid simulation of the Z-pinch instabilities for profiles generated during wire array implosion in the Saturn pulsed power generator. *Physics of Plasmas*, 12, 9/Art. No. 092701.

Šauli, P., Abry, P., Altadil, D., **Boška, J.** (2006a) Detection of the wave-like structures in the F-region electron density: two station measurements. *Studia geophysica et geodaetica*, 50, 131-146.

Šauli, P., Abry, P., **Boška, J.**, Duchayne, L. (2006b) Wavelet characterisation of ionospheric acoustic and gravity waves occurring during the solar eclipse of August 11, 1999. *Journal of Atmospheric and Solar-Terrestrial Physics*, 68, 586-598.

Šimůnek, J., Šafránková, J., Němeček, Z., Přeč, L. (2005) Structure of the high-altitude cusp formed by the horizontal IMF. *Advances in Space Research*, 36, 1928-1933.

Titova, E. E., Yahnin, A. G., **Santolík, O.**, Gurnett, D. A., **Jiříček, F.**, Rauch, J. L., Lefeuvre, F., Frank, L. A., Sigwarth, J. B., Mogilevsky, M. M. (2005) The relationship between auroral hiss at high altitudes over the polar caps and the substorm dynamics of aurora. *Annales Geophysicae*, 23, 2117-2128.

Trávníček, P., **Hellinger, P.**, Schriver, D., Bale, S. D. (2005) Structure of the lunar wake: Two-dimensional global hybrid simulations. *Geophysical Research Letters*, 32, L06102, doi:10.1029/2004GL022243.

Trnka, M., Žalud, Z., Eitzinger, J., **Dubrovský, M.** (2005) Global solar radiation in Central European lowlands estimated by various empirical formulae. *Agricultural and Forest Meteorology*, 131, 54-76.

Truhlík, V., **Třísková, L.**, **Šmilauer, J.** (2005) Manifestation of solar activity in the global topside ion composition – a study based on satellite data. *Annales Geophysicae*, 23, 2511-2517.

Tříška, P., **Czapek, A.**, **Chum, J.**, **Hruška, F.**, **Šimůnek, J.**, **Šmilauer, J.**, **Truhlík, V.**, **Vojta, J.** (2005) Space weather effects on the MAGION-4 and MAGION-5 solar cells. *Annales Geophysicae*, 23, 3111-3113.

Třísková, L., **Truhlík, V.**, **Šmilauer, J.** (2006) An empirical topside electron density model for calculation of absolute ion densities in IRI. *Advances in Space Research*, 37, 928-934.

Yearby, K. H., Alleyne, H. S. C. K., Cornilleau-Wehrin, N., **Santolík, O.**, Balikhin, M. A., Walker, S. N., Fazakerley, A., Lahiff, A. (2005) Observations of lion roars in the magnetosheath by the STAFF/DWP experiment on the Double Star TC-1 spacecraft. *Annales Geophysicae*, 23, 2861-2866.

B. Publication in other peer-reviewed journals

Bochníček, J., **Laštovička, J.**, Schenk, V., **Boška, J.**, **Burešová, D.**, Hejda, P., Horáček, J., Kottbauer, P., **Křižan, P.**, Nejedlá, J., Růžek, B., Schenková, Z., **Šauli, P.**, Zedník, J. (2005) Geophysical observations and prediction of geophysical fields for users. *Acta Research Reports*, 14, 51-59.

Cahynová, M. (2005) Vliv severoatlantské oscilace na sezonní teploty vzduchu ve střední Evropě. *Meteorologické zprávy*, 58, 41-46.

Chaloupecký, P., Kastner, J. (2005) Režim přízemních mlh v Praze. Meteorologické zprávy, 58, 79-84.

Čermák, D., Schejbal, V., Němec, Z., Bezoušek, P., **Fišer, O.** (2005) UWB radar multipath propagation effects. Scientific papers of the University of Pardubice, Series B – The Jan Perner Transport Faculty, 11.

Kyselý, J. (2005) Odhad parametrů rozdělení extrémních hodnot metodou L momentů. Meteorologické zprávy, 58, 161-167.

Kyselý, J. (2006) Prostorová proměnlivost horkých vln v České republice a letní teplotní zvláštnost jihozápadních Čech. Meteorologické zprávy, 59, 183-189.

Moliba, J.C., Huth, R., Beranová, R. (2006) Roční chod trendů klimatických prvků v České republice. Meteorologické zprávy, 59, 129-134.

Müller, M., Kašpar, M., Řezáčová, D., Sokol, Z. (2006) Extremita meteorologických prvků před velkoprostorovými dešťovými povodněmi v ČR – index LSF. Meteorologické zprávy, 59, 65-75.

Schejbal, V., Bezoušek, P., Čermák, D., Němec, Z., **Fišer, O.,** Hájek, M. (2006) UWB Propagation through Walls. Radioengineering, 15, 17-24.

Schejbal, V., Čermák, D., Němec, Z., Pidanič, J., Konečný, J., Bezoušek, P., **Fišer, O.** (2006) Multipath Propagation of UWB Through-Wall Radar and EMC Phenomena. Radioengineering, 15, 52-57.

Sokol, Z., Řezáčová, D. (2006b) Asimilace radarové odrazivosti do numerického modelu předpovědi počasí s vysokým rozlišením. Meteorologické zprávy, 59, 18-29.

Zacharov, P. jr., Řezáčová, D. (2005) Srovnání účinnosti diagnostických a prognostických charakteristik konvekčního prostředí. Meteorologické zprávy, 58, 3, 65-72.

C. Books, chapters in books, monographs

Horák, J. (2006) Matematické modelování v problémech klimatu. Praha, Academia.

Santolík, O., Parrot, M. (2006) Propagation Analysis of Electromagnetic Waves: Application to Auroral Kilometric Radiation. In: Geospace Electromagnetic Waves and Radiation, Lecture Notes in Physics, Vol. 687, LaBelle, J.W.; Treumann, R.A. (Eds.), Springer, Berlin, Heidelberg, 297-312.

Štekl, J., Flasar, I., Flasarová, M., Kotyza, O., Kubát, K., Ulrych, J. (2005) Milešovka a milešovský region. Praha, Academia.

Zvelebil, J., Paluš, M., **Novotná, D.** (2006) Nonlinear Science issues in the dynamics of unstable rock slopes: new tools for rock fall risk assessment and early warnings. Fractal Analysis for Natural Hazards. Geological Society SP261, 79-93.