

PUBLICATIONS 2007



**DÉPARTEMENT D'ASTROPHYSIQUE, DE
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Astronomy and Theoretical Astrophysics

Published papers

- BRIQUET, M., MOREL, T., THOUL, A., SCUFLAIRE, R., MIGLIO, A., MONTALBÁN, J., DUPRET, M.-A., AND AERTS, C., An asteroseismic study of the β Cephei star θ Ophiuchi: constraints on global stellar parameters and core overshooting, *Month. Not. R. Astron. Soc.*, 381, 1482-1488, 2007
- BRIQUET, T., MOREL, A., THOUL, R., SCUFLAIRE, A., MIGLIO, J. MONTALBÁN, AND C. AERTS. , An asteroseismic study of the β Cephei star θ Ophiuchi: constraints on global stellar parameters coreovershooting, *Month. Not. R. Astron. Soc.*, 381, 1482–1488 , 2007
- CARRIER, F., EGGENBERGER P., LEYDER J.-C., DEBERNARDI Y. AND ROYER F., A search for solar-like oscillations in the Am star HD 209625, *Astron. Astrophys.*, 470, 1009, 2007
- CARRIER, F., KJELDSSEN H., BEDDING T.R., BREWER B.J., BUTLER R.P., EGGENBERGER P., GRUNDAHL F., MCCARTHY C., RETTER A., AND TINNEY C.G., Solar-like oscillations in the metal-poor subgiant ν Indi II: Acoustic spectrum and mode lifetime, *Astron. Astrophys.*, 470, 1059, 2007
- CUNHA, M.S., AERTS C., CHRISTENSEN-DALSGAARD J., BAGLIN A., BIGOT L., BROWN T.M., CATALA C., CREEVEY O.L., DE SOUZA A.D., EGGENBERGER P., GARCIA P.J.V., GRUNDAHL F., KERVELLA P., KURTZ D.W., MATHIAS P., MIGLIO A., MONTEIRO M.J.P.F.G., PERRIN G., PIJPERS F.P., POURBAIX D., QUIRRENBACH A., ROUSSELET-PERRAUT K., TEIXEIRA T.C., THEVENIN F., AND THOMPSON M.J., Asteroseismology and interferometry', *Astron. Astrophys. Review*, 14, 217-360, 2007
- DE CAT, P., M. BRIQUET, C. AERTS, K. GOOSSENS, S. SAESEN, J. CUYPERS, K. YAKUT, R. SCUFLAIRE, M.-A. DUPRET, K. UYTTERHOEVEN, HANS VAN WINCKEL, G. RASKIN, G. DAVIGNON, L. LE GUILLOU, R. VAN MALDEREN, M. REYNIERS, B. ACKE, W. DE MEESTER, J. VANAUTGAERDEN, B. VANDENBUSSCHE, T. VERHOELST, C. WAELKENS, P. DEROO, K. REYNIERS, M. AUSSELOOS, E. BROEDERS, J. DASZYNSKA-DASKIEWICZ, J. DEBOSSCHER, S. DE RUYTER, K. LEFEVER, G. DECIN, K. KOLENBERG, A. MAZUMDAR, C. VAN KERCKHOVEN, J. DE RIDDER, R. DRUMMOND, C. BARBAN, E. VANHOLLEBEKE, T. MAAS, AND L. DECIN, Long term photometric monitoring with the Mercator telescope. Frequencies and mode identification of variable O-B stars, *Astron. Astrophys.*, 463, 243–249 , 2007
- DUPRET, M.A., MIGLIO, A., GRIGAHCÈNE, A., AND MONTALBÁN, J., Theoretical aspects of g-mode pulsations in γ Doradus stars, *Communications in Asteroseismology*, 150, 98, 2007

- EGGENBERGER, P., CARRIER, F., MATHIS, S., AND MIGLIO, A., Modelling solar-like oscillators, *HELAS II International Conference, Journal of Physics: Conference Series, IOP Publishing*, 2007
- EGGENBERGER, P., MIGLIO, A., CARRIER, F., FERNANDES, J., AND SANTOS, N., Asteroseismic observations and modelling of 70 Ophiuchi AB, *HELAS II International Conference, Journal of Physics: Conference Series, IOP Publishing*, 2007
- FREMAT, Y., LAMPENS, P., VAN CAUTEREN, P., KLEIDIS, S., GAZEAS, K., NIARCHOS, P., NEINER, C., DIMITROV, D., CUYPERS, J., MONTALBÁN, J., DE CAT, P., AND ROBERTSON, C.W., Search for pulsation among suspected A-type binaries and the new multiperiodic d Scuti star HD 217860, *Astron. Astrophys.*, 471, 675-686, 2007
- GREVESSE, N., ASPLUND, M., AND SAUVAL, A.J., The solar chemical composition, *Space Sci. Rev.*, 130, 105-114, 2007
- HU, H., VUCKOVIC, M., NELEMANS, G., OESTENSEN, R., DUPRET, M.A., SCUFLAIRE, R., AERTS, C., AND GROOT P., The evolutionary status of the pulsating sdB star PG1336-018, *In Hot Subdwarf Stars and Related Objects, 23-27 July 2007, Bamberg, Germany*, 2007
- LEBRETON, Y., MONTALBAN, J., CHRISTENSEN-DALSGAARD, J., THÉADO, S., HUI-BON-HOA, A., MONTEIRO, M.J.P.F.G., DEGL'INNOCENTI, S., MARCONI, M., MOREL, P., PRADA MORONI, P.G., AND WEISS, A., Microscopic Diffusion in Stellar Evolution Codes: First Comparisons Results of ESTA-Task 3, *In EAS Publications Serie, volume 26 of EAS Publications Series*, 155-165, 2007
- MAMAJEK, E., BARRADO Y NAVASCUES, D., RANDICH, S., JENSEN, E., YOUNG, P., MIGLIO, A., AND BARNES, S., A Splinter Session on the Thorny Problem of Stellar Ages, *Summary of splinter session on "Stellar Ages" for the 14th Cambridge Workshop on Cool Stars, Stellar Systems and the Sun, 6-10 November 2006*, 2007
- MATHIS, S., DECRESSIN T., PALACIOS A., EGGENBERGER P., SIESS L, TALON S., CHARBONNEL C., TURCKCHIZE, S., AND ZAHN, J.-P., Meridional circulation in the radiation zones of rotating stars: origins, behaviors and consequences on stellar evolution, *Astronomische Nachrichten*, 328, 1062, 2007
- MATHIS, S., EGGENBERGER, P., DECRESSIN, T., PALACIOS, A., SIESS, L., CHARBONNEL, C., TURCK-CHIEZE, S., AND ZAHN, J.-P., Advances in secular magnetohydrodynamics of stellar interiors dedicated to asteroseismic spatial missions, *EAS Publications Series*, 26, 65, 2007
- MEYNET, G., EGGENBERGER, P., AND MAEDER, A., Populations of massive stars in galaxies, implications for the stellar evolution theory, *IAU Symposium 241, A. Vazdekis and R. Peletier eds., CUP*, 241, 13, 2007

- MIGLIO, A., BOURGE, P.O., MONTALBÁN, J., AND DUPRET, M.A., Instability strips of main sequence B stars: a parametric study of iron enhancement, *Communications in Asteroseismology*, 150, 209, 2007
- MIGLIO, A., MONTALBÁN, J., AND DUPRET, M.A. , Revised instability domains of SPB and β Cephei stars, *Communications in Asteroseismology*, 151, 48-56, 2007
- MIGLIO, A., MONTALBÁN, J., AND DUPRET, M.A., Instability strips of slowly pulsating B stars and β Cephei stars: the effect of the updated OP opacities and of the metal mixture, *Month. Not. R. Astron. Soc.*, 375, L21-L25, 2007
- MIGLIO, A., MONTALBÁN, J., AND MACERONI, C., 12 Boötis: a test-bed for extra-mixing processes in stars, *Month. Not. R. Astron. Soc.*, 377, 373-382, 2007
- MONTALBÁN, J., AND D'ANTONA, F., Pre-main Sequence models with convection described by 2D-RHD numerical simulations, *In F. Kupka, I. Roxburgh, and K. Chan, editors, IAU Symposium, volume 239 of IAU Symposium*, 320-322, 2007
- MONTALBÁN, J., AND DUPRET, M.A. , Effect of convective outer layers modeling on non-adiabatic seismic observables of δ Scuti stars, *Astron. Astrophys.*, 470, 991-1002, 2007
- MONTALBÁN, J., AND DUPRET, M.A., Effect of convection modeling on the non-adiabatic seismic observables of delta Scuti stars, *In F. Kupka, I. Roxburgh, and K. Chan, editors, IAU Symposium, volume 239 of IAU Symposium*, 385-387, 2007
- MONTALBÁN, J., MIGLIO, A., AND THÉADO, S., The convective envelope in γ Doradus stars: theoretical uncertainties, *Communications in Asteroseismology*, 150, 137, 2007
- MONTALBÁN, J., NENDWICH, J., HEITER, U., KUPKA, F., PAUNZEN, E., AND SMALLEY, B., Effect of the microturbulence parameter on the Color-Magnitude Diagram, *in F. Kupka, I. Roxburgh, and K. Chan, editors, IAU Symposium, volume 239 of IAU Symposium*, 166-168, 2007
- MONTALBÁN, J., THÉADO, S., AND LEBRETON, Y., Comparisons for ESTA-Task3: CLES and CESAM, *in EAS Publications Series, volume 26 of EAS Publications Series*, 167-176, 2007
- THOUL, A., AND MONTALBÁN, J. , Microscopic Diffusion in Stellar Plasmas, *EAS Publications Series, volume 26 of EAS Publications Series*, 25-36, 2007
- UYTTERHOEVEN, K., PORETTI, E., RAINER, M., MANTEGAZZA, M., ZIMA, W., AERTS, C., MOREL, T., MIGLIO, A., LEFEVER, K., AMADO, P., MATHIAS, P., VALTIER, J., PAPARO, M., AND BENKO, J., Close-up of primary and secondary asteroseismic CoRoT targets and the ground-based follow-up observations, *HELAS II International Conference, Journal of Physics: Conference Series, IOP Publishing*, 2007

- UYTTERHOEVEN, K., PORETTI, E., RODRIGUEZ, E., DE CAT, P., MATHIAS, P., TELTING, J.H., COSTA, AND MIGLIO A., Multiperiodicity in the newly discovered mid-late Be star V2104 Cygni, *Astron. Astrophys.*, 470,1051-1057, 2007

Papers in press or submitted

- HU, M. VUCKOVIC, G. NELEMANS, R. OESTENSEN, M.-A. DUPRET, R. SCUFLAIRE, C. AERTS, AND P. GROOT, The evolutionary status of the pulsating sdB star PG1336-018, *Hot Subdwarf Stars and Related Objects, 23–27 July 2007, Bamberg, Germany*.
- LEBRETON, Y., M.J.P.F.G. MONTEIRO, J. MONTALBÁN, A. MOYA, A. BAGLIN, J. CHRISTENSEN-DALSGAARD, M.-J. GOUPIL, E. MICHEL, J. PROVOST, I.W. ROXBURGH, AND R. SCUFLAIRE, The CoRoT Evolution and Seismic Tools Activity, *Astrophysics and Space Science, Corot/ESTA volume*
- MIGLIO, A., MONTALBAN, J., EGGENBERGER, P., AND NOELS, A, Gravity modes and mixed modes as probes of stellar cores in main-sequence stars: from solar-like to beta Cep stars, *ArXiv e-prints, accepted for publication in Astronomische Nachrichten*
- MIGLIO, A., MONTALBAN, J., NOELS, A., AND EGGENBERGER, P, Probing the properties of convective cores through g modes: high-order g modes in SPB and g Doradus stars, *Month. Not. R. Astron. Soc., accepted*
- MONTALBAN, J., MIGLIO, A., EGGENBERGER, P., AND NOELS, A., The effect of turbulent mixing on the g-mode spectrum of MS stars, *ArXiv e-prints, accepted for publication in Astronomische Nachrichten*
- MONTALBAN, J., Y. LEBRETON, A. MIGLIO, R. SCUFLAIRE, P. MOREL, AND A. NOELS, Thorough analysis of input physics in CESAM and CLÉS codes, *Astrophysics and Space Science, Corot/ESTA volume*.
- MOYA A., CHRISTENSEN-DALSGAARD S., CHARPINET S., LEBRETON Y., MIGLIO A., AND MONTALBÁN J., Intercomparison of the g-, f- and p-modes calculated using different oscillation codes for a given stellar model, *Astrophysics and Space Science, Corot/ESTA volume*
- SCUFLAIRE R., S. THÉADO, J. MONTALBÁN, A.MIGLIO, P.-O. BOURGE, M. GODART, A. THOUL, AND A. NOELS, CLÉS, Code Liégeois d'Évolution Stellaire, *Astrophysics and Space Science, Corot/ESTA volume*
- SCUFLAIRE R., J.MONTALBÁN, S. THÉADO, P.-O. BOURGE, A.MIGLIO, M. GODART, A. THOUL, AND A. NOELS, The Liège Oscillation Code, *Astrophysics and Space Science, Corot/ESTA volume*

Astrophysics and Image Processing

Published papers

- ANTONELLI, L. A., STELLA, L., TAGLIAFERRI, G., JEHIN, E., AND SCHMIDTOBREICK, L., GRB070429B: VLT observations, *GRB Coordinates Network, Circular Service*, 6372, 1, 2007
- BONFILS, X., MAYOR, M., DELFOSSE, X., FORVEILLE, T., GILLON, M., PERRIER, C., UDRY, S., BOUCHY, F., LOVIS, C., PEPE, F., AND 3 COAUTHORS, The HARPS search for southern extra-solar planets. X. A $m \sin i = 11 M_{\oplus}$ planet around the nearby spotted M dwarf GJ 674, *Astron. Astrophys.*, 474, 1, 293-299, 2007
- CHANTRY, V. AND P. MAGAIN, Deconvolution of HST images of the Cloverleaf gravitational lens. Detection of the lensing galaxy and a partial Einstein ring, *Astron. Astrophys.*, 470, 467-473, doi:10.1051/0004-6361:200668393, 2007
- DE GRIJS, R., AND PARMENTIER, G., The Long-term Survival Chances of Young Massive Star Clusters, *Chinese Journal of Astronomy and Astrophysics*, 7, 155-186, DOI:10.1088/1009-9271/7/2/01, 2007
- DEMORY, B.-O., GILLON, M., BARMAN, T., BONFILS, X., MAYOR, M., MAZEH, T., QUELOZ, D., UDRY, S., BOUCHY, F., DELFOSSE, X., AND 4 COAUTHORS, Characterization of the hot Neptune GJ 436 b with Spitzer and ground-based observations, *Astron. Astrophys.*, 475, 1125-1129, 2007
- FREUDLING, W., MØLLER, P., PATAT, F., MOEHLER, S., ROMANIELLO, M., JEHIN, E., O'BRIEN, K., IZZO, C., DEPAGNE, E., POMPEI, E., NAEF, D., RUPPRECHT, G., AND JÄRVINEN, A., Towards Precision Photometry with FORS: A Status Report, *The Messenger*, 128, 13, 2007
- FREUDLING, W., ROMANIELLO, M., PATAT, F., MØLLER, P., JEHIN, E., AND O'BRIEN, K., Photometry with FORS at the ESO VLT, ASP Conference Series, 364, 113, 2007
- GILLON, M., DEMORY, B.-O., BARMAN, T., BONFILS, X., MAZEH, T., PONT, F., UDRY, S., MAYOR, M., AND QUELOZ, D., Accurate Spitzer infrared radius measurement for the hot Neptune GJ 436b, *Astron. Astrophys.*, 471, L51-L54, 2007
- GILLON, M., PONT, F., DEMORY, B.-O., MALLMANN, F., MAYOR, M., MAZEH, T., QUELOZ, D., SHPORER, A., UDRY, S. AND VUISOZ, C., Detection of transits of the nearby hot Neptune GJ 436 b, *Astron. Astrophys.*, 472, L13-L16, 2007
- GILLON, M., PONT, F., MOUTOU, C., SANTOS, N.C., BOUCHY, F., HARTMAN, J.D., MAYOR, M., MELO, C., QUELOZ, D., UDRY, S., AND MAGAIN, P., The transiting planet OGLE-TR-132b revisited with new spectroscopy and deconvolution photometry, *Astron. Astrophys.*, 466, 743-748, DOI:10.1051/0004-6361:20066367, 2007

- JEHIN, E., JENNISKENS, P., CABANAC, R.A., LAUX, C.O., AND BOYD, I.D., Spectroscopic anatomy of a meteor with the very large telescope (ESO), *Advances in Space Research*, 39, 550-554, 2007
- JEHIN, E., JENNISKENS, P., CABANAC, R.A., LAUX, C.O., AND BOYD, I.D., Spectroscopic anatomy of a meteor with the very large telescope (ESO), *Advances in Space Research*, 39, Issue 4, 550-554.
- JEHIN, E., MANFROID, J., SNODGRASS, C., FITZSIMMONS, A., HAINAUT, O., HUTSEMÉKERS, D., and MARCO, O., Comet C/2006 P1 (McNaught), *Central Bureau Electronic Telegrams*, 832, 2, 2007
- KAWAKITA, H., JEHIN, E., MANFROID, J., AND HUTSEMÉKERS, D., Nuclear spin temperature of ammonia in Comet 9P/Tempel 1 before and after the Deep Impact event, *Icarus*, 187, 272-275, 2007
- KAWAKITA, H., JEHIN, E., MANFROID, J., AND HUTSEMÉKERS, D., Nuclear spin temperature of ammonia in Comet 9P/Tempel 1 before and after the Deep Impact event, *Icarus*, 191, 513-516, 2007
- KAWAKITA, H., JEHIN, E., MANFROID, J., AND HUTSEMÉKERS, D., Nuclear spin temperature of ammonia in Comet 9P/Tempel 1 before and after the Deep Impact event, *Icarus*, 191, Issue 2, 513-516, 2007
- KAWAKITA, H., JEHIN, E., MANFROID, J., AND HUTSEMÉKERS, D., Nuclear spin temperature of ammonia in Comet 9P/Tempel 1 before and after the Deep Impact event, *Icarus*, 187, Issue 1, 272-275, 2007
- LETAWE, G., MAGAIN, P., COURBIN, F., JABLONKA, P., JAHNKE, K., MEYLAN, G., AND WISOTZKI, L., On-axis spectroscopy of the host galaxies of 20 optically luminous quasars at $z \sim 0.3$, *Month. Not. R. Astron. Soc.*, 378, 83-108, DOI:10.1111/j.1365-2966.2007.11741.x, 2007
- MAGAIN, P., COURBIN, F., GILLON, M., SOHY, S., LETAWE, G., CHANTRY, V., AND LETAWE, Y., A deconvolution-based algorithm for crowded field photometry with unknown point spread function, *Astron. Astrophys.*, 461, 373-379, DOI:10.1051/0004-6361:20042505, 2007
- MANFROID, J., HUTSEMÉKERS, D., JEHIN, E., COCHRAN, A.L., ARPIGNY, C., JACKSON, W.M., MEECH, K.J., SCHULZ, R., AND ZUCCONI, J.-M., The impact and rotational light curves of Comet 9P/Tempel 1, *Icarus*, 191, 348-359., 2007
- MANFROID, J., HUTSEMÉKERS, D., JEHIN, E., COCHRAN, A.L., ARPIGNY, C., JACKSON, W.M.; MEECH, K.J., SCHULZ, R., AND ZUCCONI, J.-M., The impact and rotational light curves of Comet 9P/Tempel 1, *Icarus*, 187, 144-155, 2007

- MANFROID, J., HUTSEMÉKERS, D., JEHIN, E., COCHRAN, A.L., ARPIGNY, C. JACKSON, W.M., MEECH, K.J., SCHULZ, R., ZUCCONI, J.-M., The impact and rotational light curves of Comet 9P/Tempel 1, *Icarus*, 191, Issue 2, 348-359, 2007
- MANFROID, J., HUTSEMÉKERS, D., JEHIN, E., COCHRAN, A.L., ARPIGNY, C., JACKSON, W.M., MEECH, K.J., SCHULZ, R., AND ZUCCONI, J.-M., The impact and rotational light curves of Comet 9P/Tempel 1, *Icarus*, 187, Issue 1, 144-155, 2007
- PARMENTIER, G., AND DE GRIJS R., The poorly constrained cluster disruption time-scale in the Large Magellanic Cloud, *Month. Not. R. Astron. Soc.*, DOI:10.1111/j.1365-2966.2007.12602.x, 2007
- PARMENTIER, G., AND GILMORE, G, The origin of the Gaussian initial mass function of old globular cluster systems, *Month. Not. R. Astron. Soc.*, 377, 352-372, DOI:10.1111/j.1365-2966.2007.11611.x, 2007
- PONT, F., MOUTOU, C., GILLON, M., UDALSKI, A., BOUCHY, F., FERNANDES, J. M., GIEREN, W., MAYOR, M., MAZEH, T., MINNITI, D., AND 7 COAUTHORS, The "666" collaboration on OGLE transits. I. Accurate radius of the planets OGLE-TR-10b and OGLE-TR-56b with VLT deconvolution photometry, *Astron. Astrophys.*, 465, 1069-1074, 2007
- SMOKER, J.V., HUNTER, I., KEENAN, F.P., LEDOUX, C., JEHIN, E., MELO, C., BAGNULO, S., AND CABANAC, R., Small Scale Structure in the ISM towards IC 2391 and NGC 6475, 365, 82, 2007
- SNODGRASS, C., FITZSIMMONS, A., HAINAUT, O., HAMUY, M., HUTSEMEKERS, D., JEHIN, E., JONES, M., AND MANDFROID, J., Comet C/2006 P1 (McNaught), *Central Bureau Electronic Telegrams*, 832, 1, 2007
- SZEIFERT, T., REISS, R., BAKSAI, P., DEIRIES, S., IZZO, C., JEHIN, E., KIEKEBUSCH, M., MOEHLER, S., O'BRIEN, K., POMPEI, E., RIQUELME, M., RUPPRECHT, G., AND SHEN, T.-C., FORS1 is getting Blue: New Blue Optimised Detectors and High Throughput Filters, *The Messenger*, 128, 9, 2007
- THÖNE, C.C., GREINER, J., SAVAGLIO, S., AND JEHIN, E., ISM Studies of GRB 030329 with High-Resolution Spectroscopy, *ApJ*, 671, 628-636, 2007
- THÖNE, C.C., GREINER, J., SAVAGLIO, S., AND JEHIN, E., ISM Studies of GRB 030329 with High-Resolution Spectroscopy, *The Astrophysical Journal*, 671, Issue 1, 628-636, 2007
- TOZZI, G.-P., BAGNULO, S., BOEHNHARDT, H., HAINAUT, O., JEHIN, E., KAEUFL, U., KERBER, F., KOLOKOLOVA, L., LARA, L., AND TUBIANA, C., Observations Of Comet 73p/sw3 During Its Closest Approach To The Earth, *American Astronomical Society, DPS meeting,39, 54.04*, 2007

- VUISOZ, C., COURBIN, F., SLUSE, D., MEYLAN, G., IBRAHIMOV, M., ASFANDIYAROV, I., STOOBS, E., EIGENBROD, A., LE GUILLOU, L., VAN WINCKEL, H., AND MAGAIN, P., COSMOGRAIL : the COSmological Monitoring of GRAvitational Lenses v. the time delay in SDSS J1650+4251, *Astron. Astrophys.*, 464, 845-851, DOI:10.1051/0004-6361:20065823, 2007
- WINN, J.N., HOLMAN, M.J., BAKOS, G.Á., PÁL, A., ASHER JOHNSON, J., WILLIAMS, P.K. G., SHPORER, A., MAZEH, T., FERNANDEZ, J., LATHAM, D.W., AND GILLON, M., The Transit Light Curve Project. VII. The Not-So-Bloated Exoplanet HAT-P-1b, *ApJ*, 134, 1707-1712, 2007

Papers in press or submitted

- PARMENTIER, G., S.P. GOODWIN, P. KROUPA, AND H. BAUMGARDT, The Shape of the Initial Cluster Mass Function: What it Tells us about the Local Star Formation Efficiency, *ApJ*.
- BORGUET, B., HUTSEMÉKERS, D., LETAWE, G., LETAWE, Y., AND MAGAIN, P., Evidence of a type 1/type 2 dichotomy in the correlation between quasar optical polarization and host-galaxy/extended emission position angles, *Astron. Astrophys.*
- LETAWE, G., P. MAGAIN, AND F. COURBIN, Slit and integral-field optical spectroscopy of the enigmatic quasar HE0450-2958, *Astron. Astrophys.*
- BAUMGARDT, H., P. KROUPA, AND G. PARMENTIER, The influence of residual gas expulsion on the evolution of the Galactic globular cluster system and the origin of the Population II halo, *Month. Not. R. Astron. Soc.*

Atmospheric and Planetary Physics

Published papers

- AJELLO, J. M., M. STEVENS, I. STEWART, K. LARSEN, L. ESPOSITO, J. COLWELL, W. MCCLINTOCK, G. HOLSCLAW, J. GUSTIN, AND W. PRYOR, Titan airglow spectra from Cassini Ultraviolet Imaging Spectrograph (UVIS): EUV analysis, *J. Geophys. Res.*, L24204, doi:10.1029/2007GL031555, 2007
- BERTAUX, J.-L., A.-C. VANDAELE, O. KORABLEV, E. VILLARD, A. FEDOROVA, D. FUSSEN, E. QUEMERAIS, D. BELYAEV, A. MAHIEUX, F. MONTMESSIN, C. MULLER, E. NEEFS, D. NEVEJANS, V. WILQUET, J. P. DUBOIS, A. HAUCHECORNE, A. STEPANOV, I. VINOGRADOV, A., D. NEVEJANS, O. KORABLEV, F. MONTMESSIN, A. FEDOROVA, M. CABANE, E. CHASSEFIERE, J. Y. CHAUFRAY, E. DIMARELLIS, J.P. DUBOIS, A. HAUCHECORNE, F. LEBLANC, F. LEFEVRE, P. RANNOU, E. VAN RANSBEECK, V. WILQUET, A. RODIN, L. ZASOVA, F. FORGET, S. LEBONNOIS, D. TITOV, S. RAFKIN, G. DURRY, J.-C. GÉRARD AND B. SANDEL, A warm layer in Venus' cryosphere and high-altitude measurements of HF, HCl, H₂O and HDO, *Nature*, 450, doi:10.1038/nature05974, 2007
- BERTAUX , J.-L., D. NEVEJANS, O. KORABLEV, E. VILLARD, E. QUEMERAIS, E. NEEFS, F. MONTMESSIN, F. LEBLANC, J.P. DUBOIS, E. DIMARELLIS, A. HAUCHECORNE, F. LEFEVRE, P. RANNOU, J.Y. CHAUFRAY, M. CABANE, G. CERNOGORA, G. SOUCHON, F. SEMELIN, A. REBERAC, E. VAN RANSBEEK, S. BERKENBOSCH, R. CLAIRQUIN, C. MULLER, F. FORGET, F. HOURDIN, O. TALAGRAND, A. RODIN, A. FEDOROVA, A. STEPANOV, I. VINOGRADOV, A. KISELEV, YU. KALINNIKOV, G. DURRY, B. SANDEL, A. STERN, AND J.-C. GÉRARD, SPICAV on Venus Express: Three spectrometers to study the global structure and composition of the Venus atmosphere, *Planet. Space Sci.*, 55, 1673–1700, 2007
- BLOCKX C., J.-C. GÉRARD, V. COUMANS, B. HUBERT, AND M. MEURANT, A comparison between FUV remote sensing of magnetotail stretching and the T01 model during quiet conditions and growth phases, *Ann. Geophys.*, 25, 161-170, 2007
- BONFOND B., J.-C. GÉRARD, D. GRODENT, AND J. SAUR, Ultraviolet Io footprint short timescale dynamics, *Geophys. Res. Lett.*, 34, L06201, doi: 10.1029/2006GL028765, 2007
- COUMANS V., C. BLOCKX, J.-C. GÉRARD, B. HUBERT, AND M. CONNORS, Global morphology of substorm growth phases observed by the IMAGE-SI12 imager, *J. Geophys. Res. (Space Physics)*, 112, A11211, doi:10.1029/2007JA012329, 2007
- DRIESSCHAERT E., T. FICHEFET, H. GOOSSE, P. HUYBRECHTS, I. JANSSENS, A. MOUCHET, G. MUNHOVEN, V. BROVKIN, AND S.L. WEBER, Modeling the influence of the Greenland ice sheet melting on the Atlantic meridional overturning circulation during the next millennia, *Geophys. Res. Lett.*, 34, L10707, doi: 10.1029/2007GL029516, 2007

- DROSSART, P., G. PICCIONI, J.-C. GÉRARD, M. A. LOPEZ-VALVERDE, A. SANCHEZ-LAVEGA, L. ZASOVA, R. HUESO, F. W. TAYLOR, B. BÉZARD, A. ADRIANI, F. ANGRILLI, G. ARNOLD, K. H. BAINES, G. BELLUCCI, J. BENKHOFF, J. P. BIBRING, A. BLANCO, M. I. BLECKA, R. W. CARLSON, A. CORADINI, A. DI LELLIS, T. ENCRENAZ, S. ERARD, S. FONTI, V. FORMISANO, T. FOUCHET, R. GARCIA, R. HAUS, J. HELBERT, N. I. IGNATIEV, P. IRWIN, Y. LANGEVIN, S. LEBONNOIS, D. LUZ, L. MARINANGELI, V. OROFINO, A. V. RODIN, M. C. ROOS-SEROTE, B. SAGGIN, D. M. STAM, D. TITOV, G. VISCONTI, M. ZAMBELLI, C. TSANG AND THE VIRTIS-VENUS EXPRESS TECHNICAL TEAM, A dynamic upper atmosphere VIRTIS as revealed by on Venus Express, *Nature*, 450, doi:10.1038/nature06140, 2007
- FAVRE E., L. FRANÇOIS, F. FLUTEAU, R. CHEDDADI, L. THÉVENOD, AND J.-P. SUC, Messinian vegetation maps of the Mediterranean region using models and interpolated pollen data, *Geobios*, 40, 433-443, 2007
- GÉRARD J.-C., D. GRODENT, D. MITCHELL, W. KURTH, E. BUNCE, S.W.H. COWLEY AND J.T. CLARKE, Saturn auroral morphology and activity during quiet solar wind conditions, *J. Geophys. Res. (Space Physics)*, 111, A12210, doi: 10.1029/2006JA011965, 2007
- GODDERIS Y., Y. DONNADIEU, C. DESSERT, B. DUPRE, F. FLUTEAU, L.M. FRANÇOIS, J. MEERT, A. NEDELEC, AND G. RAMSTEIN, Coupled modeling of global carbon cycle and climate in the Neoproterozoic: links between Rodinia breakup and major glaciations, *C. R. Geosciences*, 339, 212-222, 2007
- HUBERT, B., K. KAURISTIE, O. AMM, S.E. MILAN, A. GROCOTT, S.W.H. COWLEY, AND T.I. PULKKINEN, Auroral streamers and magnetic flux closure, *Geophys. Res. Lett.*, 34, L15105, doi:10.1029/2007GL030580, 2007
- IMBER S.M., S. E. MILNA, AND B. HUBERT, Observations of significant flux closure by dual lobe reconnection, *Ann. Geophys.*, 25, 1617–1627, 2007
- MEURANT M., J.-C. GÉRARD, C. BLOCKX, E. SPANSWICK, E.F. DONOVAN, B. HUBERT, V. COUMANS, AND M. CONNORS, EL - a possible indicator to monitor the magnetic field stretching at global scale during substorm expansive phase: Statistical study, *J. Geophys. Res. (Space Physics)*, 112, A05222, doi: 10.1029/2006JA012126, 2007
- MIKALOFF FLETCHER, S.E., N. GRUBER, A.R. JACOBSON, S.C. DONEY, S. DUTKIEWICZ, M. GERBER, M. GLOOR, M. FOLLOWS, F. JOOS, K. LINDSAY, D. MENEMENLIS, A. MOUCHET, S.A. MÜLLER, AND J.L. SARMIENTO, Inverse estimates of the oceanic sources and sinks of natural CO₂ and their implied oceanic transport, *Global Biogeochem. Cycles*, 21, GB1010, doi: 10.1029/2006GB002751, 2007
- MILAN, S.E., G. PROVAN, AND B. HUBERT, Magnetic flux transport in the Dungey cycle: A survey of dayside and nightside reconnection rates, *J. Geophys. Res.*, 112, A01209, doi:10.1029/2006JA011642, 2007

- MUNHOVEN, G., Glacial-interglacial rain ratio changes: Implications for atmospheric CO₂ and ocean-sediment interaction, *Deep-Sea Research II*, 54, 722-746, 2007
- NAJJAR, R. G., X. JIN, F. LOUANCHI, O. AUMONT, K. CALDEIRA, S. C. DONEY, J.-C. DUTAY, M. FOLLOWS, N. GRUBER, F. JOOS, K. LINDSAY, E. MAIER-REIMER, R.J. MATEAR, K. MATSUMOTO, A. MOUCHET, J.C. ORR, G.-K. PLATTNER, J.L. SARMIENTO, R. SCHLITZER, M.F. WEIRIG, Y. YAMANAKA AND A. YOOL, Impact of circulation on export production, dissolved organic matter, and dissolved oxygen in the ocean: Results from Phase II of the Ocean Carbon-cycle Model Intercomparison Project (OCMIP-2), *Global Biogeochem. Cycles*, 21, GB3007, doi: 10.1029/2006GB002857, 2007
- NICHOLS J.D., E.J. BUNCE, J.T. CLARKE, S.W.H. COWLEY, J.-C. GÉRARD, D. GRODENT, AND W.R. PRYOR, Response of Jupiter's UV auroras to interplanetary conditions as observed by the Hubble Space Telescope during the Cassini flyby campaign, *J. Geophys. Res. (Space Physics)*, 112, A02203, doi: 10.1029/2006JA012005, 2007
- UTESCHER T., B. ERDEI, L. FRANÇOIS, AND V. MOSBRUGGER, Tree diversity in the Miocene forests of Western eurasia, *Palaeogeogr. Palaeoclim. Palaeoecol.*, 253, 226-250, 2007

Papers in press

- BONFOND B., GRODENT D., GÉRARD J.-C., RADIOTI A., SAUR J. AND JACOBSEN S., The UV Io footprint leading spot: A key feature for understanding the UV Io footprint multiplicity ?, *Geophys. Res. Lett.*, in press
- BRANDUARDI-RAYMONT, R.F. ELSNER, M. GALAND, D. GRODENT, T.E. CRAVENS, P. FORD, G.R. GLADSTONE, AND J.H. WAITE, Spectral morphology of the X-Ray emission from Jupiter's aurorae, *J. Geophys. Res. (Planets)*, in press
- COX C., A. SAGLAM, J.-C. GÉRARD, J.-L. BERTAUX, F. GONZÁLEZ-GALINDO, F. LEBLANC, AND A. REBERAC, The distribution of the Ultraviolet Nitric Oxide Martian Night Airglow: observations from Mars Express and comparisons with a one-dimensional model, *J. Geophys. Res. (Planets)*, in press
- FRANÇOIS, L. AND J.-L. PROBST, Carbon cycle and hydrology in the Paleo-terrestrial environments, *Global Planet Change (special issue editorial)*, in press
- GÉRARD J.-C., B. HUBERT, V.I. SHEMATOVICH, D.V. BISIKALO, AND G.R. GLADSTONE, The Venus ultraviolet oxygen dayglow and aurora : model comparison with observations, *Planet. Space Sci.*, in press
- GÉRARD, J.-C., A. SAGLAM, G. PICCIONI, P. DROSSART, C. COX, S. ERARD, R. HUESO, AND A. SÁNCHEZ-LAVEGA, Distribution of the O₂ infrared nightglow observed with VIRTIS on board Venus Express, *Geophys. Res. Lett.*, in press.

- GRODENT D., J. GÉRARD, A. RADIOTI, B. BONFOND, AND A. SAGLAM, Jupiter's changing auroral location, *J. Geophys. Res.*, *in press*.
- LAURENT J.-M., L. FRANÇOIS, A. BAR-HEN, L. BEL, AND R. CHEDDADI, European Bioclimatic Affinity Groups: data-model comparisons, *Global Planet. Change (special issue)*, *in press*
- MENVIEL-HESSLER L., A. TIMMERMANN, A. MOUCHET, AND O. TIMM, Meridional reorganizations of marine and terrestrial productivity during Heinrich events, *Paleoceanography*, doi:10.1029/2007PA001445, *in press*
- MILAN S.E., B. HUBERT, AND M. HAIRSTON, On the storm-time expansion of the auroral oval to low latitudes, *Ann. Geophys.*, *in press*
- MILAN S.E., G. PROVAN, B. HUBERT, AND M. R. HAIRSTON, Transient auroral features associated with lobe reconnection, *Ann. Geophys.*, *in press*
- MOUCHET A. AND E. DELEERSNIJDER, The leaky funnel model, a metaphor of the ventilation of the World Ocean, *Tellus*, *in press*
- PLATTNER, G.-K., R. KNUTTI, F. JOOS, T. F. STOCKER, W. VON BLOH, V. BROVKIN, D. CAMERON, E. DRIESSCHAERT, S. DUTKIEWICZ, M. EBY, N. R. EDWARDS, T. FICHEFET, J. C. HARGREAVES, C. D. JONES, M. F. LOUTRE, H. D. MATTHEWS, A. MOUCHET, S. A. MÜLLER, S. NAWRATH, A. PRICE, A. SOKOLOV, K. M. STRASSMANN, AND A. J. WEAVER, Long term climate commitments projected with climate carbon cycle models, *Journal of Climate*, *in press*
- RADIOTI A., J.-C. GÉRARD, D. GRODENT, B. BONFOND, N. KRUPP AND J. WOCH, Discontinuity in Jupiter's main auroral oval, *J. Geophys. Res. (Space Physics)*, *in press*

Atmospheric and Solar Spectroscopy

Published papers

- CLERBAUX, C., D.M. CUNNOLD, J. ANDERSON, A. ENGEL, P.J. FRASER, E. MAHIEU, A. MANNING, J. MILLER, S.A. MONTZKA, R. NASSAR, R. PRINN, S. REIMANN, C.P. RINSLAND, P. SIMMONDS, D. VERDONIK, R. WEISS, D. WUEBBLES, AND Y. YOKOUCHI, Long-lived compounds, Chapter 1 of *WMO Scientific Assessment of Ozone Depletion: 2006*, WMO Report No. 50, 572 pp., World Meteorological Organization, Geneva, Switzerland, 2007
- CLERBAUX, C., M. GEORGE, S. TURQUETY, K. A. WALKER, B. BARRET, P. BERNATH, C. BOONE, T. BORSODORFF, J. P. CAMMAS, V. CATOIRE, M. COFFEY, P.-F. COHEUR, M. DEETER, M. DE MAZIÈRE, J. DRUMMOND, P. DUCHATELET, E. DUPUY, R. DE ZAFRA, F. EDDOUNIA, D. P. EDWARDS, L. EMMONS, B. FUNKE, J. GILLE, D. W. T. GRIFFITH, J. HANNIGAN, F. HASE, M. HÖPFNER, N. JONES, A. KAGAWA, Y. KASAI, I. KRAMER, E. LE FLOCHMOËN, N. J. LIVESSEY, M. LÓPEZ-PUERTAS, M. LUO, E. MAHIEU, D. MURTAGH, PH. NÉDÉLEC, A. PAZMINO, H. PUMPHREY, P. RICAUD, C. P. RINSLAND, C. ROBERT, M. SCHNEIDER, C. SENTEN, G. STILLER, A. STRANDBERG, K. STRONG, R. SUSSMANN, V. THOURET, J. URBAN, AND A. WIACEK, CO measurements from the ACE-FTS satellite instrument: data analysis and validation using ground-based, airborne and spaceborne observations, *Atmos. Chem. Phys. Discuss.*, 7, 15277-15340, 2007
- CORTESI, U., J.C. LAMBERT, C. DE CLERCQ, G. BIANCHINI, T. BLUMENSTOCK, A. BRACHER, E. CASTELLI, V. CATOIRE, K.V. CHANCE, M. DE MAZIÈRE, P. DEMOULIN, S. GODIN-BEEKMANN, N. JONES, K. JUCKS, C. KEIM, T. KERZENMACHER, H. KUELLMANN, J. KUTTIPPURATH, M. IARLORI, G.Y. LIU, Y. LIU, I.S. MCDERMID, Y.J. MEIJER, F. MENCARAGLIA, S. MIKUTEIT, H. OELHAF, C. PICCOLO, M. PIRRE, P. RASPOLLINI, F. RAVEGNANI, W.J. REBURN, G. REDAELLI, J.J. REMEDIOS, H. SEMBHI, D. SMALE, T. STECK, A. TADDEI, C. VAROTSOS, C. VIGOUROUX, A. WATERFALL, G. WETZEL, AND S. WOOD, Geophysical validation of MIPAS-ENVISAT operational ozone data, *Atmos. Chem. Phys.*, 7, 4807-4867, 2007
- DE MAZIÈRE, M., C. VIGOUROUX, P. F. BERNATH, P. BARON, T. BLUMENSTOCK, C. BOONE, C. BROGNIEZ, V. CATOIRE, M. COFFEY, P. DUCHATELET, D. GRIFFITH, J. HANNIGAN, Y. KASAI, I. KRAMER, N. JONES, E. MAHIEU, G. L. MANNEY, C. PICCOLO, C. RANDALL, C. ROBERT, C. SENTEN, K. STRONG, J. TAYLOR, C. TÉTARD, K. A. WALKER, AND S. WOOD, Validation of ACE-FTS v2.2 methane profiles from the upper troposphere to lower mesosphere, *Atmos. Chem. Phys. Discuss.*, 7, 17975-18014, 2007

- DILS, B., M. DE MAZIÈRE, T. BLUMENSTOCK, F. HASE, I. KRAMER, E. MAHIEU, P. DEMOULIN, P. DUCHATELET, J. MELLQVIST, A. STRANDBERG, M. BUCHWITZ, I. KHLYSTOVA, O. SCHNEISING, V. VELAZCO, J. NOTHOLT, R. SUSSMANN AND W. STREMMER, Validation of WFM-DOAS CO and CH₄ Scientific Products using Ground-Based FTIR Measurements, in Observing Tropospheric Trace Constituents from Space, ACCENT-TROPOSAT-2 in 2006-7, *J. Burrows and P. Borrell, Eds.*, 263-267, 2007
- GARDINER, T., A. FORBES, P. WOODS, M. DE MAZIÈRE, C. VIGOUROUX, E. MAHIEU, P. DEMOULIN, V. VELAZCO, J. NOTHOLT, T. BLUMENSTOCK, F. HASE, I. KRAMER, R. SUSSMAN, W. STREMMER, J. MELLQVIST, A. STRANDBERG, K. ELLINGSEN, AND M. GAUSS, Method for evaluating trends in greenhouse gases from ground-based remote FTIR measurements over Europe, *Atmos. Chem. Phys. Discuss.*, 7, 15781-15803, 2007
- GOLDMAN, A., R.H. TIPPING, Q. MA, C.D. BOONE, P.F. BERNATH, P. DEMOULIN, F. HASE, M. SCHNEIDER, J.W. HANNIGAN, M.T. COFFEY AND C.P. RINSLAND, On the line parameters for the $X^1\Sigma^+_g$ (1-0) infrared quadrupolar transitions of ¹⁴N₂, *J. Quant. Spectrosc. Radiat. Transfer*, 103, 168-174, 2007
- HÖPFNER, M., T. VON CLARMANN, H. FISCHER, B. FUNKE, N. GLATTHOR, U. GRABOWSKI, S. KELLMANN, M. KIEFER, A. LINDEN, M. MILZ, T. STECK, G.P. STILLER, P. BERNATH, C. E. BLOM, TH. BLUMENSTOCK, C. BOONE, K. CHANCE, M.T. COFFEY, F. FRIEDL-VALLON, D. GRIFFITH, J.W. HANNIGAN, F. HASE, N. JONES, K.W. JUCKS, C. KEIM, A. KLEINERT, W. KOUKER, G.Y. LIU, E. MAHIEU, J. MELLQVIST, S. MIKUTEIT, J. NOTHOLT, H. OELHAF, C. PIESCH, T. REDDMANN, R. RUHNKE, M. SCHNEIDER, A. STRANDBERG, G. TOON, K.A. WALKER, T. WARNEKE, G. WETZEL, S. WOOD, AND R. ZANDER, Validation of MIPAS ClONO₂ measurements, *Atmos. Chem. Phys.*, 7, 257-281, 2007
- MAHIEU, E., C. SERVAIS, P. DUCHATELET, R. ZANDER, P. DEMOULIN, M. DE MAZIÈRE, C. SENTEN, K.A. WALKER, C.D. BOONE, C.P. RINSLAND AND P. BERNATH, Optimisation of retrieval strategies using Jungfraujoch high-resolution FTIR observations for long-term trend studies and satellite validation, in Observing Tropospheric Trace Constituents from Space, ACCENT-TROPOSAT-2 in 2006-7, *J. Burrows and P. Borrell, Eds.*, 280-285, 2007
- MAHIEU, E., P. THEATE AND V. BRAHY, La destruction de la couche d'ozone, dans le chapitre 9 du *Rapport analytique 2006-2007 sur l'état de l'environnement wallon*, 316-321, Cellule Etat de l'Environnement Wallon, MRW – DGRNE, D/2007/5322/45, 736p., 2007
- MAHIEU, E., R. ZANDER, P. DEMOULIN, P. DUCHATELET, C. SERVAIS, M. DE MAZIÈRE, AND C.P. RINSLAND, FTIR Observations at the Jungfraujoch Station for Long-term Monitoring of the Troposphere and Validation of Space-based Sensors, in Measuring Tropospheric Trace Constituents from Space, ACCENT-TROPOSAT-2 in 2005-6, *J. Burrows and P. Borrell, Eds.*, 274-277, 2007

- PAYAN, S., C. CAMY-PEYRET, H. OELHAF, G. WETZEL, G. MAUCHER, C. KEIM, M. PIRRE, N. HURET, A. ENGEL, M. C. VOLK, H. KUELLMANN, J. KUTTIPPURATH, U. CORTESI, G. BIANCHINI, F. MENCARAGLIA, P. RASPOLINI, G. REDAELLI, C. VIGOUROUX, M. DE MAZIÈRE, S. MIKUTEIT, T. BLUMENSTOCK, V. VELAZCO, J. NOTHOLT, M. MAHIEU, P. DUCHATELET, D. SMALE, S. WOOD, N. JONES, C. PICCOLO, V. PAYNE, A. BRACHER, N. GLATTHOR, G. STILLER, K. GRUNOW, P. JESECK, Y. TE, K. PFEILSTICKER, AND A. BUTZ, Validation and data characteristics of methane and nitrous oxide profiles observed by MIPAS and processed with Version 4.61 algorithm, *Atmos. Chem. Phys. Discuss.*, 7, 18043-18111, 2007
- RINSLAND, C.P., A. GOLDMAN, J.W. HANNIGAN, S.W. WOOD, L.S. CHIOU AND E. MAHIEU, Long-term trends of tropospheric carbon monoxide and hydrogen cyanide from analysis of high resolution infrared solar spectra, *J. Quant. Spectrosc. Radiat. Transfer*, 104, 40-51, 2007
- RINSLAND, C.P., R. NASSAR, C.D. BOONE, P.F. BERNATH, L.S. CHIOU, D.K. WEISENSTEIN, E. MAHIEU AND R. ZANDER, Spectroscopic detection of COClF in the tropical and mid-latitude lower stratosphere, *J. Quant. Spectrosc. Radiat. Transfer*, 105, 467-475, 2007
- VIGOUROUX, C., M. DE MAZIÈRE, Q. ERRERA, S. CHABRILLAT, E. MAHIEU, P. DUCHATELET, S. WOOD, D. SMALE, S. MIKUTEIT, T. BLUMENSTOCK, F. HASE, AND N. JONES, Comparisons between ground-based FTIR and MIPAS N₂O and HNO₃ profiles before and after assimilation in BASCOE, *Atmos. Chem. Phys.*, 7, 377-396, 2007
- WANG, D.Y., M. HÖPFNER, C.E. BLOM, W.E. WARD, H. FISCHER, T. BLUMENSTOCK, F. HASE, C. KEIM, G.Y. LIU, S. MIKUTEIT, H. OELHAF, G. WETZEL, U. CORTESI, F. MENCARAGLIA, G. BIANCHINI, G. REDAELLI, M. PIRRE, V. CATOIRE, N. HURET, C. VIGOUROUX, M. DEMAZIÈRE, E. MAHIEU, P. DEMOULIN, S. WOOD, D. SMALE, N. JONES, H. NAKAJIMA, T. SUGITA, J. URBAN, D. MURTAGH, C.D. BOONE, P.F. BERNATH, K.A. WALKER, J. KUTTIPPURATH, A. KLEINBOHL, G. TOON, AND C. PICCOLO, Validation of MIPAS HNO₃ operational data, *Atmos. Chem. Phys.*, 7, 4905-4934, 2007

Papers in press or submitted

- REIMANN, S., M.K. VOLLMER, D. FOLINI, M. STEINBACHER, M. HILL, R. ZANDER AND E. MAHIEU, Observations of Long-Lived Anthropogenic Halocarbons at the High-Alpine site of Jungfraujoch (Switzerland) for Assessment of Trends and European Sources, accepted for publication in *Sci. Tot. Environ.*, 391, 224-231, to appear in 2008
- ZANDER, R., E. MAHIEU, P. DEMOULIN, P. DUCHATELET, G. ROLAND, C. SERVAIS, M. DE MAZIÈRE, S. REIMANN AND C.P. RINSLAND, Our changing atmosphere: Evidence based on long-term infrared solar observations at the Jungfraujoch since 1950, *Sci. Total Environ.*, 391, 184-195, to appear in 2008

Chemical Oceanography

Published papers

- BOUILLON, S., F. DEHAIRS, B. VELIMIROV, G. ABRIL AND A.V. BORGES, Dynamics of organic and inorganic carbon across contiguous mangrove and seagrass systems (Gazi bay, Kenya), *Journal of Geophysical Research, Biogeosciences, VOL. 112, G02018, doi:10.1029/2006JG000325*, 2007
- BOUILLON, S., F. DEHAIRS, L.-S. SCHIETTECATTE AND A.V. BORGES, Biogeochemistry of the Tana estuary and delta (northern Kenya), *Limnology and Oceanography, 52(1), 45-59*, 2007
- BOUILLON, S., J.J. MIDDELBURG, F. DEHAIRS, A.V. BORGES, G. ABRIL, M.R. FLINDT, S. ULOMI AND E. KRISTENSEN, Importance of intertidal sediment processes and porewater exchange on the water column biogeochemistry in a pristine mangrove creek (Ras Dege, Tanzania), *Biogeosciences, 4, 311–322*, 2007
- CIAIS, P., A.V. BORGES, G. ABRIL, M. MEYBECK, G. FOLBERTH, D. HAUGLUSTAINE AND I. A. JANSSENS, Lateral fluxes of carbon and the European carbon balance, *Biogeosciences Discussion, 3, 1529–1559*
- DELILLE, B., B. JOURDAIN, A.V. BORGES, J.-L. TISON AND D. DELILLE, Iogas (CO₂, O₂, dimethylsulfide) dynamics in spring Antarctic fast ice, *Limnology and Oceanography, 52(4), 1367-1379*, 2007
- PAQUAY, F.S., F.T. MACKENZIE AND A.V. BORGES, Carbon dioxide dynamics in rivers and coastal waters of the “Big Island” of Hawaii, USA, during baseline and heavy rain condition, *Aquatic Geochemistry, 13(1):1-18*, 2007
- ROCHELLE-NEWALL, E.J., C. WINTER, C. BARRÓN, A.V. BORGES, C.M. DUARTE, M. ELLIOTT, M. FRANKIGNOULLE, F. GAZEAU, J.J. MIDDELBURG, M.-D. PIZAY AND J.-P. GATTUSO, An artificial neural network analysis of factors controlling ecosystem metabolism in the coastal ocean, *Ecological Applications, 17(5) Supplement, S185–S196*, 2007
- SCHIETTECATTE, L.-S., H. THOMAS, Y. BOZEC AND A.V. BORGES, High temporal coverage of carbon dioxide measurements in the Southern Bight of the North Sea, *Marine Chemistry, 106(1-2), 161-173*, 2007
- THOMAS, H., F. PROWE, S. VAN HEUVEN, Y. BOZEC, H.J.W. DE BAAR, L.-S. SCHIETTECATTE, K. SUYKENS, M. KONÉ, A.V. BORGES, I.D. LIMA AND S.C. DONEY, Rapid decline of the CO₂ buffering capacity in the North Sea and implications for the North Atlantic Ocean, *Global Biogeochemical Cycles, 21 (GB4001), doi:10.1029/2006GB002825*, 2007

Papers in press or submitted

- ÁLVAREZ-SALGADO, X.A., A.V. BORGES, F.G. FIGUEIRAS AND L. CHOU, Carbon and nutrient fluxes and budget in the NW Iberian upwelling system, In: Carbon and Nutrient Fluxes in Global Continental Margins, *Atkinson L., K.-K. Liu, R. Quinones & Talaue-McManus (Eds)*
- BORGES, A.V., B. TILBROOK, N. METZL AND B. DELILLE, Inter-annual variability of the carbon dioxide oceanic sink south of Tasmania, *Biogeosciences*
- BORGES, A.V., K. RUDDICK, B. DELILLE AND L.-S. SCHIETTECATTE, Net ecosystem production and carbon dioxide fluxes in the Scheldt estuarine plume
- BOUILLON, S., A.V. BORGES, E. CASTAÑEDA-MOYA, K. DIELE, THORSTEN DITTMAR, N.C. DUKE, E. KRISTENSEN, S.Y. LEE, C. MARCHAND, J.J. MIDDELBURG, V.H. RIVERA-MONROY, T.J. SMITH III AND R.R. TWILLEY, Mangrove production and carbon sinks: a revision of global budget estimates, *Global Biogeochemical Cycles*
- CHEN, C.T.A. AND A.V. BORGES, Reconciling opposing views on carbon cycling in the coastal ocean: continental shelves as sinks and near-shore ecosystems as sources of atmospheric CO₂
- DELILLE, B., A.V. BORGES AND D. DELILLE, Influence of giant kelp beds (*Macrocystis pyrifera*) on diel cycles of pCO₂ and DIC in Sub-Antarctic coastal areas
- DELILLE, B., B. TILBROOK, D. LANNUZEL, V. SCHOEMANN, S. BECQUEVORT, A.V. BORGES, D. DELILLE, C. LANCELOT, L. CHOU, G.S. DIECKMANN AND J.-L. TISON, Air – sea ice exchange of carbon dioxide: the end of a long-lived paradigm?
- ELKALAY, K., H. THOMAS, Y. BOZEC, A.V. BORGES, L.-S. SCHIETTECATTE, R. HEERDINK, P. RUARDIJ AND H. DE BAAR, Biogeochemical 1D ERSEM ecosystem model applied to recent carbon dioxide and nutrient data in the North Sea
- JOASSIN, P., B. DELILLE, K. SOETAERT, A.V. BORGES, L. CHOU, A. ENGEL, J. HARLAY, U. RIEBESELL, K. SUYKENS AND M. GREGOIRE, A mathematical modelling of blooms of the coccolithophore *Emiliana huxleyi* occurring in a mesocosm experiment
- KONÉ, Y.J.-M. AND A. V. BORGES, Dissolved inorganic carbon dynamics in the waters surrounding forested mangroves of the Ca Mau Province (Vietnam), Estuarine, *Coastal and Shelf Science*

- LANNUZEL, D., V. SCHOEMANN V., J. DE JONG J., L. CHOU, B. DELILLE, S. BECQUEVORT AND J.-L. TISON, Iron study during a time series in the western Weddell pack ice *Marine Chemistry*
- RALISON, O.H., A.V. BORGES, F. DEHAIRS, J.J. MIDDELBURG AND S. BOUILLON, Carbon biogeochemistry of the Betsiboka Estuary (north-western Madagascar)
- THOMAS, H., Y. BOZEC, H. LENHAR, A. MOLL, J. PÄTSCH, H. DE BAAR, K. ELKALAY, L.-S. SCHIETTECATTE, M. FRANKIGNOULLE AND A.V. BORGES, Carbon and nutrient budgets of the North Sea, In: *Carbon and Nutrient Fluxes in Global Continental Margins*, *Atkinson L., K.-K. Liu, R. Quinones & Talaue-McManus (Eds)*
- TISON, J.-L., A. WORBY, B. DELILLE, F. BRABANT, S. PAPADIMITRIOU, D. THOMAS, J. DE JONG, D. LANNUZEL AND C. HAAS, Temporal evolution of decaying summer first-year sea ice in the western Weddell Sea, Antarctica, *Deep-Sea Research II*

Extragalactic Astrophysics and Space Observations

Published papers

- DEFRÈRE, D., ABSIL, O., HANOT, C. AND FRIDLUND, M., Potential of space-based infrared Bracewell interferometers for planet detection, *Presented at the Society of Photo-Optical Instrumentation Engineers (SPIE) Conference, Proc. SPIE 6693, 53, 2007*
- DI FOLCO, E., ABSIL, O., AUGEREAU, J.-C., MERAND, A., COUDE DU FORESTO, V., THEVENIN, F., DEFREERE, D. ET AL., A near-IR interferometric survey of debris-disk stars I. Probing the host dust content around E ERI and T CET with CHARA/FLUOR, *Astron. Astrophys.*, 475, 243-250, 2007
- GARCET, O., GANDHI, P., GOSSET, E., SPRIMONT, P.G., SURDEJ, J., BORKOWSKI, V., TAJER, M., PACAUD, F., PIERRE, M., CHIAPPETTI, L., MACCAGNI, D., PAGE, M. J., CARRERA, F. J., TEDDS, J.A., MATEOS, S., KRUMPE, M., CONTINI, T., CORRAL, A., EBRERO, J., GAVIGNAUD, I., SCHWOPE, A., LE FEVRE, O., POLLETTA1, M., ROSEN, S., LONSDALE, C., WATSON, M., BORCZYK, W., AND VAISANEN, P., The XMM large scale structure survey: optical vs. X-ray classifications of active galactic nuclei and the unified scheme, *Astron. Astrophys.*, 474, 473-489 , 2007
- HALL P., S. SADAVOY, D. HUTSEMÉKERS, J. EVERETT, AND A. RAFIEE, Acceleration and substructure constraints in a quasar outflow, *Astrophys. J.*, 665, 174-186, 2007
- JEAN, C., AND SURDEJ, J., Extinction law classification and lens redshift estimate by means of the principal component analysis, *Astron. Astrophys.* 471, 807-812, 2007
- JEHIN E., J. MANFROID, C. SNODGRASS, A. FITZSIMMONS, O. HAINAUT, D. HUTSEMÉKERS, AND O. MARCO, Comet C/2006 P1 (McNaught), *CBET832, 2, 2007*
- KAWAKITA H., E. JEHIN, J. MANFROID, AND D. HUTSEMÉKERS, Nuclear spin temperature of ammonia in Comet 9P/Tempel 1 before and after the Deep Impact event, *Icarus*, 187, 272-275, 2007
- MANFROID J., D. HUTSEMÉKERS, E. JEHIN, A. COCHRAN, C. ARPIGNY, W. JACKSON, K. MEECH, R. SCHULZ, AND J.-M. ZUCCONI, The impact and rotational lightcurves of Comet 9P/Tempel 1, *Icarus*, 187, 144-155, 2007
- MAWET, D., HANOT, C., LENAERTS, C., RIAUD, P., DEFRÈRE, D., VANDORMAEL, D., LOICQ, J., FLEURY, K., PLESSERIA, J.-Y., SURDEJ, J., AND HABRAKEN, S., Fresnel rhombs as achromatic phase shifters for infrared nulling interferometry, *Optics Express*, 15, Issue 20, 12850-12865, 2007

- PACAUD, F., PIERRE, M., ADAMI, C., ALTIERI, B., ANDREON, S., CHIAPPETTI, L., DETAL, A., DUC, P.-A., GALAZ, G., GUEGUEN, A., LE FÈVRE, J.-P., HERTLING, G., LIBBRECHT, C., PONMAN, T. J., QUINTANA, H., REFREGIER, A., SPRIMONT, P.-G., SURDEJ, J., VALTCHANOV, I., WILLIS, J. P., ALLOIN, D., BIRKINSHAW, M., BREMER, M. N., GARCET, O., JEAN, C., JONES, L. R., LE FÈVRE, O., MACCAGNI, D., MAZURE, A., PROUST, D., RÖTTGERING, AND H.J.A., TRINCHIERI, The XMM-LSS survey: the C1 cluster sample over the first 5 deg² and its cosmological modelling, *Mon. Not. R. Astron. Soc.* 382, 1289-1308, 2007
- SAVIANE I., V. PIROLA, S. BAGNULO, L. MONACO, D. HUTSEMEKERS, S. KATAJAINEN, H. LEHTO, T. VORNANEN, A. BERDYUGIN, AND P. HAKALA, Circular polarimetry now offered at EFOSC2, *The Messenger* 129, 14-19, 2007
- SLUSE, D., CLAESKENS, J.-F., HUTSEMEKERS, D., AND SURDEJ, J., Multi-wavelength study of the gravitational lens system RXS J1131-1231 - III. Long slit spectroscopy : micro-lensing probes the QSO structure, *Astron. Astrophys.* 468, 885-901, 2007
- SNODGRASS C., A. FITZSIMMONS, O. HAINAUT, M. HAMUY, D. HUTSEMEKERS, E. JEHIN, M. JONES, AND J. MANFROID, Comet C/2006 P1 (McNaught), *CBET832, 1*, 2007
- SURDEJ, J., BARTCZAK, P., BORKOWSKI, V., BORRA, E., CHISOGNE, J.-P., CLAESKENS, J.-F., COLLIN, B., DE BECKER, M., DEFRERE, D., DENIS, S., FLEBUS, C., GARCET, O., GLOESENER, P., HABRAKEN, S., LAMPENS, P., MAGETTE, A., MANFROID, J., MAWET, D., NINANE, N., POELS, J., POSPIESZALSKA, A., RIAUD, P., SPRIMONT, P.-G., AND SWINGS, J.-P., The 4m International Liquid Mirror Telescope (ILMT), *Invited talk, VII International Conference on Relativistic Astrophysics, Gravitation and Cosmology, Kyiv (Ukraine), 23-25 May 2007, Book of Abstracts, 15-16*, 2007
- TAJER, M., POLLETTA, M., CHIAPPETTI, L., MARASCHI, L., TRINCHIERI, G., MACCAGNI, D., ANDREON, S., GARCET, O., SURDEJ, J., PIERRE, M., LE FÈVRE, O., FRANCESCHINI, A., LONSDALE, C.J., SURACE, J.A., SHUPE, D.L., FANG, F., ROWAN-ROBINSON, M., SMITH, H.E., AND TRESSE, L., Obscured and unobscured AGN populations in a hard-X-ray selected sample of the XMDS survey, *Astron. Astrophys.* 467, 73-91, 2007

Papers in press or submitted

- BORGUET B., D. HUTSEMEKERS, G. LETAWE, Y. LETAWE, AND P. MAGAIN, Evidence for a Type 1 / Type 2 dichotomy in the correlation between quasar optical polarization and host galaxy / extended emission position angles, *Astron. Astrophys. In press*

- BORGUET B., D. HUTSEMEKERS, G. LETAWE, Y. LETAWE, AND P. MAGAIN, Quasar host orientation and polarization: insights into the Type 1 / Type 2 dichotomy, *Rev. Mex. Astron. Astrophys., in press*
- COCHRAN A., E. JEHIN, J. MANFROID, D. HUTSEMEKERS, C. ARPIGNY, J.-M. ZUCCONI, AND R. SCHULZ, Nitrogen isotope ratios in comets, *In Precision Spectroscopy in Astrophysics, N. Santos et al. (eds), ESO Astrophysics Symposia, in press*
- DEFRÈRE, D., ABSIL, O., AND COUDÉ DU FORESTO, V., Performance study of space-based infrared nulling interferometers for exozodiacal disc detection, *Poster presented during the workshop "Circumstellar disks and planets at very high angular resolution", Porto (ESO), 28 May-8 June 2007, in press*
- DEFRÈRE, D., ABSIL, O., AND COUDÉ DU FORESTO, V., Performance study of space-based infrared nulling interferometers for exozodiacal disc detection, *Workshop "Circumstellar disks and planets at very high angular resolution", Porto (ESO), 28 May-8 June 2007, in press*
- DEFRÈRE, D., LAY, O., DEN HARTOG, R. AND ABSIL, O., Earth-like planets: science performance predictions of future life-finding space missions, *in the proceedings of the SPIE conference in Marseille, in press*
- GARCET, O., GANDHI, P., DISSEAU, L., GOSSET, E., GUEGUEN, A., PACAUD, F., PIERRE, M., AND SURDEJ, J., The XMM-LSS Survey : properties and two-point angular correlations of point-like sources, *Workshop "XMM-Newton: The Next Decade", Madrid (ESAC), 4-6 June 2007, in press*
- GARCET, O., GANDHI, P., GOSSET, E., SPRIMONT, P. G., SURDEJ, J., BORKOWSKI, V., TAJER, M., PACAUD, F., PIERRE, M., CHIAPPETTI, L., MACCAGNI, D., PAGE, M. J., CARRERA, F. J., TEDDS, J.A., MATEOS, S., KRUMPE, M., CONTINI, T., CORRAL, A., EBRERO, J., GAVIGNAUD, I., SCHWOPE, A., LE FÈVRE, O., POLLETTA1, M., ROSEN, S., LONSDALE, C., WATSON, M., BORCZYK, W., AND VAISANEN, P., The XMM-LSS Survey : about testing the unified scheme upon optically identified X-ray selected AGN in the [2-10] keV band, *workshop "XMM-Newton: The Next Decade", Madrid (ESAC), 4-6 June 2007, in press*
- PIERRE, M., CHIAPPETTI, L., PACAUD, F., GUEGUEN, A., LIBBRECHT, C., ALTIERI, B. AUSSSEL, H., GANDHI, P., GARCET, O., GOSSET, E., PAIORO, L., PONMAN, T.J., READ, A.M., REFREGIER, A., STARCK, J.-L., SURDEJ, J., VALTCHANOV, I., ADAMI, C., ALLOIN, D., ALSHINO, A., ANDREON, S., BIRKINSHAW, M., BREMER, M., DETAL, A., DUC, P.-A., GALAZ, G., JONES, L., LE FEVRE, J.-P., LE FÈVRE, O., MACCAGNI, D., MAZURE, A., QUINTANA, H., ROTTGERING, H.J.A.R, RAYCHAUDHURY, S., SPRIMONT, P.-G., AND TASSE, C., The XMM-LSS catalogue: X-ray sources and associated optical data. Version I, *Mon. Not. R. Astron. Soc., in press*

- POLLETTA, M., TAJER, M., MARASCHI, L., TRINCHIERI, G., LONSDALE, C.J., CHIAPPETTI, L., ANDREON, S., PIERRE, M., LE FÈVRE, O., ZAMORANI, G., MACCAGNI, D., GARCET, O., SURDEJ, J., FRANCESCHINI, A., ALLOIN, D., SHUPE, D.L., SURACE, J.A., FANG, F., ROWAN-ROBINSON, M., SMITH, H.E., AND TRESSE, L., Spectral Energy Distributions of Hard X-ray selected AGN in the XMDS Survey, *Astron. Astrophys., in press*
- SCHULZ, R., E. JEHIN, J.MANFROID, D. HUTSEMEKERS, C. ARPIGNY, A. COCHRAN, J.-M. ZUCCONI, AND J. STUWE, Isotopic abundance in the CN coma of comets. 10 years of measurements, *In AOGS proceedings, in press*
- SLUSE D., J.-F. CLAESKENS, D. HUTSEMÉKERS, AND J. SURDEJ, Microlensing probes the AGN structure of the lensed quasar J1131-1231, *Rev. Mex. Astron. Astrophys., in press*

High Energy Astrophysics

Published papers

- BLOMME R., DE BECKER M., RUNACRES M.C., VAN LOO S., AND SETIA GUNAWAN D.Y.A., Non-thermal radio emission from O-type stars. II. HD 167971, *Astron. Astrophys.*, 464, 701-708, doi:10.1051/0004-6361:20054602, 2007
- CARRIER F., EGGENBERGER P., LEYDER J.-C., DEBERNARDI Y., AND ROYER F., A search for solar-like oscillations in the Am star HD 209625, *Astron. Astrophys.*, 470, 1009-1012, doi:10.1051/0004-6361:20067022, 2007
- DAMERDJI Y., KLOTZ A., AND BOËR M., The TAROT Suspected Variable Star Catalog, *The Astronomical Journal*, 133, 1470-1477, doi:10.1086/511747, 2007
- DE BECKER M., AND RAUW G., New Colliding-Wind Massive Binaries, in Massive Stars in Interacting Binaries, *ASP Conference Series*, 367, 207-212, 2007
- DE BECKER M., Non-thermal emission processes in massive binaries, *The Astronomy & Astrophysics Review*, 14, 171-216, doi: 10.1007/s00159-007-0005-2, 2007
- DE BECKER M., RAUW G., PITTARD J.M., SANA H., STEVENS I.R., AND ROMERO G.E., INTEGRAL-ISGRI observations of the Cygnus OB2 region. Searching for hard X-ray point sources in a region containing several non-thermal emitting massive stars, *Astron. Astrophys.*, 472, 905-910, doi:10.1051/0004-6361:20077734, 2007
- GALIS R., BECKMANN V., CHENEVEZ J., BRANDT S., BELANGER G., KUULKERS E., CADOLLE-BEL M., SANCHEZ-FERNANDEZ C., BAZZANO A., DONNARUMMA I., FIOCCHI M., NATALUCCI L., GÖTZ D., HERMSEN W., LEYDER J.-C., PIRAINO S., POTTSCHMIDT K., SHAPOSHNIKOV N., PAIZIS A., SIDOLI L., TOMSICK J., WALTER R., AND WATANABE K., SAX J1810.8-2609 displays increasing hard X-ray activity, *The Astronomer's Telegram*, 1227, 1, 2007, 2007
- GENDRE B., GALLI A., CORSI A., KLOTZ A., PIRO L., STRATTA G., BOËR M., AND DAMERDJI Y., The gamma-ray burst 050904: evidence for a termination shock?, *Astron. Astrophys.*, 462, 565-573, doi:10.1051/0004-6361:20065220, 2007
- HOWARTH I.D., WALBORN N.R., LENNON D.J., PULS J., NAZÉ Y., ANNUK K., ANTOKHIN I., BOHLENDER D., BOND H., DONATI J.-F., GEORGIEV L., GIES D., HARMER D., HERRERO A., KOLKA I., MC DAVID D., MOREL T., NEGUERUELA I., RAUW G., AND REIG P., Towards an understanding of the Of?p star HD 191612: optical spectroscopy, *Month. Not. Roy. Astron. Soc.*, 381, 433-446, doi:10.1111/j.1365-2966.2007.12178.x, 2007

- LE BORGNE J. F., PASCHKE A., VANDENBROERE J., PORETTI E., KLOTZ A., BOËR M., DAMERDJI Y., MARTIGNONI M., AND ACERBI F., Stellar evolution through the ages: period variations in galactic RRab stars as derived from the GEOS database and TAROT telescopes, *Astron. Astrophys.*, 476, 307-316, doi:10.1051/0004-6361:20077957, 2007
- LEYDER J.-C., WALTER R., LAZOS M., MASETTI N., AND PRODUIT N., Hard X-ray flares in IGR J08408-4503 unveil clumpy stellar winds, *Astron. Astrophys.*, 465, L35-L38, doi:10.1051/0004-6361:20066317, 2007
- LINDER N., RAUW G., SANA H., DE BECKER M., AND GOSSET E., The Struve-Sahade effect in the optical spectra of O-type binaries. I. Main-sequence systems, *Astron. Astrophys.*, 474, 193-204, doi:10.1051/0004-6361:20077902, 2007
- NAZÉ Y., CORCORAN M.F., KOENIGSBERGER G., AND MOFFAT A.F.J., First Detection of Phase-dependent Colliding Wind X-Ray Emission outside the Milky Way, *The Ap.J.*, 658, L25-L28, doi:10.1086/513510, 2007
- NAZÉ Y., RAUW G., POLLOCK A.M.T., WALBORN N.R., AND HOWARTH I.D., Towards an understanding of the Of?p star HD191612: phase-resolved multiwavelength observations, *Month. Not. R. Astron. Soc.*, 375, 145-153, doi:10.1111/j.1365-2966.2006.11270.x, 2007
- PAIZIS A., BECKMANN V., GÖTZ D., SIDOLI L., BAZZANO A., BELANGER G., CADOLLE-BEL M., CHENEVEZ J., DE ROSA A., KUULKERS E., FALANGA M., FIOCCHI M., KUIPER L., LEYDER J.-C., MEREGHETTI S., PIRAINO S., POTTSCHMIDT K., SHAW S., TOMSICK J., WATANABE K., WALTER R., AND WEIDENSPÖTNER G., IGR J18175-1530: a new hard X-ray transient detected by INTEGRAL, *The Astronomer's Telegram*, 1248, 1, 2007
- RAUW G., MANFROID J., GOSSET E., NAZÉ Y., SANA H., DE BECKER M., FOELLMIC, AND MOFFAT A.F.J., Early-type stars in the core of the young open cluster Westerlund 2, *Astron. Astrophys.*, 463, 981-991, doi:10.1051/0004-6361:20066495, 2007
- RAUW G., NAZÉ Y., MARIQUE P.X., DE BECKER M., SANA H., AND VREUX J.-M., Long-term Spectroscopic Variability of Two Oe Stars, *Information Bulletin on Variable Stars*, 5573, 1, 2007
- SANA H., NAZÉ Y., GOSSET E., RAUW G., SUNG H., AND VREUX J.-M., NGC6231: X-ray Properties of the Early-Type Star Population, *In Massive Stars in Interacting Binaries*, *ASP Conference Series*, 367, 109-115, 2007
- SANA H., RAUW G., AND GOSSET E., Constraining the Fundamental Parameters of the O-Type Binary CPD -41 7733, *Ap.J.*, 659, 1582-1591, doi:10.1086/512354, 2007

- SANA H., RAUW G., SUNG H., GOSSET E., AND VREUX J.-M., An XMM-Newton view of the young open cluster NGC 6231 - III. Optically faint X-ray sources, *Monthly Notices of the Royal Astronomical Society*, 377, 945-956, doi:10.1111/j.1365-2966.2007.11672.x, 2007
- TURLER M., BALMAN S., BAZZANO A., BECKMANN V., BELLONI T., BOGGS S., CAPITANIO F., CHENEVEZ J., DEL SANTO M., DIEHL R., DONNARUMMA I., ECKERT D., FERRIGNO C., GOLDONI P., GÖTZ D., LEYDER J.-C., MEREGHETTI S., PAIZIS A., POTTSCHMIDT K., SANCHEZ-FERNANDEZ C., SIDOLI L., TARANA A., TUELLER J., WALTER R., WATANABE K., AND WEIDENSPÖTNER G., IGR J17191-2821: a new hard X-ray transient detected by INTEGRAL, *The Astronomer's Telegram*, 1021, 1, 2007
- TURLER M., BALMAN S., BAZZANO A., BECKMANN V., BELLONI T., BOGGS S., CAPITANIO F., CHENEVEZ J., DEL SANTO M., DIEHL R., DONNARUMMA I., ECKERT D., GOLDONI P., GÖTZ D., LEYDER J.-C., MEREGHETTI S., PAIZIS A., POTTSCHMIDT K., SIDOLI L., TARANA A., TUELLER J., WALTER R., WATANABE K., AND WEIDENSPÖTNER G., INTEGRAL observation of a bright X-ray outburst of XTE J1739-302 / IGR J17391-3021, *The Astronomer's Telegram*, 1019, 1, 2007
- VAN DER HUUCHT K.A., RAASSEN A.J.J., MEWE R., ANTOKHIN I.I., RAUW G., VREUX J.-M., SCHILD H., AND SCHMUTZ W., XMM-Newton Studies of the Wolf-Rayet Colliding-Wind Binaries WR 25 (WN6h+O4f) and WR 11 (WC8+O7.5III), *In Massive Stars in Interacting Binaries, ASP Conference Series*, 367, 159-164, 2007

Papers in press or submitted

- DE BECKER M., RAUW G., PITTARD J.M., BLOMME R., ROMERO G.E., SANA H., AND STEVENS I.R., The investigation of particle acceleration in colliding-wind massive binaries with SIMBOL-X, *Mem. Soc. Astr. Italiana.*, in press
- FOELLM I C., KOENIGSBERGER G., GEORGIEV L., TOLEDANO O., MARCHENKO S.V., MASSEY P., DALL T.H., MOFFAT A.F.J., MORRELL N., CORCORAN M., KAUFER A., NAZÉ Y., PITTARD J., ST.-LOUIS N., FULLERTON A., MASSA D., AND POLLOCK A.M.T., New insights into the nature of the SMC WR/LBV binary HD 5980, *Revista Mexicana de Astronomía y Astrofísica*, in press
- NAZÉ Y., RAUW G., AND MANFROID J., Chandra monitoring of the very massive binary WR20a and the young open cluster Westerlund 2, *Astron. Astrophys.*, in press
- PORETTI E., LE BORGNE J. F., VANDENBROERE J., PASCHKE A., KLOTZ A., BOËR M., DAMERDJI Y., MARTIGNONI M., AND ACERBI F., Stellar evolution in real time: Period variations in galactic RR Lyr stars, *Mem. Soc. Astr. Italiana*, in press
- RAUW G., NAZÉ Y., AND OSKINOVA L.M., X-ray spectroscopy of early-type stars: The present and the future, *Astron. Nachr.*, in press

- SANA H., GOSSET E., NAZÉ Y., RAUW G., AND LINDER N., The massive stars binary fraction in young open clusters I. NGG 6231 revisited, *Month. Not. R. Astron. Soc.*, *in press*
- WALTER R., ZURITA-HERAS J., AND LEYDER J.-C., Probing clumpy stellar winds with a neutron-star, in Clumping in Hot Star Winds, *Eds. W.R. Hamann, A. Feldmeier, & L. Oskinova*, *in press*

Fundamental interactions in Physics and Astrophysics

Published papers

- AOUST, TH., Améliorations du modèle de cascade intranucléaire de Liège en vue de l'étude de cibles de spallation pour les systèmes hybrides, Thèse de doctorat, *Université de Liège, juin 2007*, 2007
- ARTOISENET, P., J.P. LANSBERG AND F. MALTONI , Hadronproduction of J/y and Upsilon in association with a heavy-quark pair, *Phys.Lett. B563*, 60-66, [*hep-ph/0703129*], , 2007
- BAWIN, M., S.A. COON AND B. HOLSTEIN, Anions and anomalies, *Int.J.Mod.Phys. A22*, 4901-4910, 2007
- BOUAZIZ, D. AND M. BAWIN, Regularization of the singular inverse square potential in quantum mechanics with a minimal length, *Phys.Rev. A76*, 032112-1 à 13, 2007
- BRINK, D.M. AND F. STANCU, Evolution of nuclear shells with the Skyrme density-dependent interaction, *Phys.Rev. C75*, 064311-1 à 13, [*nucl-th/0702065*], 2007
- BZDAK, A., L. MOTYKA, L. SZYMANOWSKI AND J.R. CUDELL, Exclusive J/y and Upsilon hadroproduction and the QCD odderon, *Phys.Rev. D75*, 094023-1 à 21 [*arXiv:hep-ph/0702134*], 2007
- CUDELL, J.R., Une brève introduction à la chromodynamique quantique, *Actes des journées jeunes chercheurs 2006, La Rochelle, France, 157-160*, 2007
- CUGNON, J., Th. AOUST, A. BOUDARD, J.-C. DAVID, S. PEDOUX, S. LERAY AND Y. YARIV, The INCL model for spallation reactions below 10 GeV, *Adv.Space Res. 40*, 1332-1338, 2007
- DE SANTANA AMARAL, J.T., M.B. GAY DUCATI, M.A. BETEMPS AND G. SOYEZ, Gamma* p cross-section from the dipole model in momentum space, *Phys.Rev. D76*, 094018-1 à 9, [*arXiv:hep-ph/0612091*], 2007
- DE SANTANA AMARAL, J.T., M.A. BETEMPS, M.B. GAY-DUCATI AND G. SOYEZ, BK equation and travelling wave solutions, Proc. Of the 1st Latin American workshop on high energy phenomenology, Porto Alegre, Brazil, 1-3 December 2005, *Braz.J.Phys. 37*, 648-651, 2007
- DUMITRU, A., E. IANCU, L. PORTUGAL, G. SOYEZ AND D.N. TRIANTAFYLLOPOULOS, Pomeron loop and running coupling effects in high energy QCD evolution, *JHEP08*, 062, 23 p., [*arXiv:hep-ph/0706.2540*], 2007

- FRIOT, S., B. PIRE AND L. SZYMANOWSKI, Deeply virtual Compton scattering on a photon and generalized parton distributions in the photon, *Phys.Lett. B647*, 153-160, [*arXiv:hep-ph/0611176*], 2007
- GELIS, R., R. PESCHANSKI, G. SOYEZ AND L. SCHOEFFEL, Systematics of geometric scaling, *Phys.Lett. B647*, 376-379, [*arXiv:hep-ph/0610435*], 2007
- GOITY, J.L. AND N. MATAGNE, Baryon Regge trajectories in the light of the $1/N_C$ expansion, *Phys.Lett. B655*, 223-227, 2007
- IANCU, E., J.T. DE SANTANA AMARAL, G. SOYEZ AND D.N. TRIANTAFYLLOPOULOS, One-dimensional model for QCD at high energy, *Nucl.Phys. A786*, 131-163, [*arXiv:hep-ph/0611105*], 2007
- IVANOV, I.P., Minkowski space structure of the Higgs potential in 2HDM, *Phys.Rev. D75*, 035001-1 à 28, *Erratum-ibid. D76*, 039902, [*arXiv:hep-ph/0609018*], 2007
- LANSBERG, J.P., B. PIRE AND L. SZYMANOWSKI, Backward DVCS and proton to photon transition distribution amplitudes, *Nucl.Phys. A782*, 16-23, [*hep-ph/0607130*], 2007
- LANSBERG, J.P. AND T.N. PHAM, Two-photon width of eta(b), eta-prime (b) and eta-prime-prime (b) from heavy-quark spin symmetry, *Phys.Rev. D75*, 017501-1 à 3, [*hep-ph/0609268*], 2007
- LANSBERG, J.P., B. PIRE. AND L. SZYMANOWSKI, Hard exclusive electroproduction of a pion in the backward region, *Phys.Rev. D75*, 074004-1 à 8, [*arXiv:hep-ph/0701125*], 2007
- LANSBERG, J.P., B. PIRE. AND L. SZYMANOWSKI, Production of a pion in association with a high- Q^2 dilepton pair in antiproton-proton annihilation at GSI-FAIR, *Phys.Rev. D76*, 111502-1 à 5, [*arXiv:0710.1267*], 2007
- LANSBERG, J.P., B. PIRE AND L. SZYMANOWSKI, Exploring backward pion electroproduction in the scaling regime, *AIP Conf. Proc. 892*, 278-280, [*hep-ph/0610407*], 2007
- LANSBERG, J.P., Off-shell and non-static contributions to heavy-quarkonium production, *AIP Conf. Proc. 892*, 324-326, [*hep-ph/0610393*], 2007
- LORCÉ, C., Exotic and on-exotic baryon properties on the light cone, *Thèse de doctorat, Université de Liège, décembre 2007*, 2007
- MARQUET, C., R. PESCHANSKI AND G. SOYEZ, Exclusive vector meson production at HERA from QCD with saturation, *Phys.Rev. D76*, 034011, [*arXiv:hep-ph/0702171*], 2007
- MATAGNE, N. AND F. STANCU, Masses of $[70, 1^+]$ baryons in large $N(c)$ QCD, *Int.J.Mod.Phys. A22*, 663-666, 2007

- MATAGNE, N. AND F. STANCU, The $[70, 1-]$ baryon multiplet in the $1/N(c)$ expansion revisited, AIP Conference Proceedings, 892, 285-288, [*hep-ph/0610432*], 2007, 2007
- MATAGNE, N. AND F. STANCU, Baryon resonances in large $N(c)$ QCD, Proceedings of the Bled workshop on "Progress in quark models", *Bled workshops in physics*, ed. by B. Golli, M. Rosina and S. Sirca, 7, 61-66, [*hep-ph/0611096*], 2007
- PEDRO COSTA, C.A. DE SOUSA, M.C. RUIVO AND Yu.L. KALINOVSKY, Phase transitions in quark matter and behaviour of physical observables in the vicinity of the critical end point, *Eur.Phys.J. A31*, 842-844, [*arXiv:hep-ph/0702231*], 2007
- PEDRO COSTA, C.A. DE SOUSA, M.C. RUIVO AND Yu.L. KALINOVSKY, The QCD critical end point in the $SU(3)$ Nambu-Jona-Lasinio model, *Phys.Lett. B647*, 431-435, [*arXiv:hep-ph/0701135*], 2007
- PESCHANSKI, R., C. MARQUET AND G. SOYEZ, Non-forward Balitsky-Kovchegov equation and vector mesons, *Proceedings of the 15th international workshop on deep-inelastic scattering and related subjects (DIS2007)*, Munich, Germany, 16-20 April 2007, published in * Munich 2007, deep-inelastic scattering *, 715-718, [*arXiv:hep-ph0706.1446*], 2007
- SALAM, G.P. AND G. SOYEZ, A practical seedless infrared-safe cone jet algorithm, *JHEP05*, 086, 36 p., [*arXiv:hep-ph/070040292*], 2007
- SEGOND, M., L. SZYMANOWSKI AND S. WALLON, Diffractive production of two $\rho_0(L)$ mesons in $e+e-$ collisions, *Eur.Phys.J. C52*, 93-112, [*arXiv:hep-ph/0703166*], 2007
- SELYUGIN, O.V. AND J.R. CUDELL, Saturation effects in diffractive scattering at LHC energies, *Proc. Of the 33rd international conference on high-energy physics 2007*, ed. By A. Sissakian, G. Kozlov and E. Kolganova, WSPC, Singapore, ISBN 978-981-270-385-9, 4 p., [*hep-ph/0610222*], 2007
- SEMAY, C., F. BUISSERET, N. MATAGNE AND F. STANCU, Baryonic mass formula in large $N(c)$ QCD versus quark model, *Phys.Rev. D75*, 096001-1 à 19, [*arXiv:hep-ph/0708.3291*], 2007
- SOYEZ, G., Saturation QCD predictions with heavy quarks at HERA, *Phys.Lett. B655*, 32-38, [*arXiv:hep-ph/0705.3672*], 2007

Irreversible thermomechanics

Published papers

- LEBON, G., M. RUGGIERI AND A. VALENTI, Extended Thermodynamics revisited: renormalized flux variables and second sound in rigid solids, *J. Phys. C.* 20, 025223-34, 2007
- CROISIER, H. AND P.C. DAUBY, Continuation and bifurcation analysis of a periodically forced excitable system, *J. Theore. Biol.*, 246, 430-448, doi:10.1016/j.jtbi.2007.01.017, 2007
- JOU, D., J. CASAS-VAZQUEZ AND G. LEBON, Extended Irreversible Thermodynamics , 527 pp, *R&C Dynamics, Moscou* , 2007
- LANOYE, L., P. SEGERS, TH. DESAIVE, S. ROLIN, V. TCHANA-SATO, J.-M. DOGNE, A. GHUYSEN, B. LAMBERMONT, J. HANSON, V. D'ORIO AND P. KOLH, Assessment of Cardiovascular Hemodynamics in a Pig Model of Ischemia-Reperfusion, *Experimental Physiology* 92(1):127-37, 2007
- LEBON, G., D. LHUILLIER AND A. PALUMBO, A thermodynamic description of thermo-diffusion in suspensions of rigid particles, *Eur. Phys. J. IV* , 146, 3-12, 2007
- LEBON, G., D. LHUILLIER, P.C. DAUBY AND TH. DESAIVE, An Extended thermodynamic approach of suspensions, 7pp in *Proceedings of the 3rd International Meeting IEEEES, Evora, July* , 2007
- SHAW, G., G. CHASE, C. STARFINGER, B. SMITH, C. HANN, TH. DESAIVE AND A. GHUYSEN, Modelling the cardiovascular system., *Crit. Care Resusc.* 9(3):264-269, 2007
- STARFINGER, C., C. HANN, G. CHASE, TH. DESAIVE, A. GHUYSEN, AND G. SHAW, Clinical Cardiac Parameter Identification in a Porcine Model of Pulmonary Embolism., *Computer Methods and Programs in Biomedicine*, 87(1):46-60, 2007

Papers in press or submitted

- GHUYSEN, A., V. TCHANA-SATO, B. LAMBERMON, P. KOL, D. MAGIS, V. MOMMENS, N. JANSSEN, T. DESAIVE AND V. D'ORIO, Alteration of right ventricular-pulmonary vascular coupling in a porcine model of progressive pressure overloading, *Shock*

Physical oceanography and interdisciplinary modeling of marine systems

Published papers

- ALVERA AZCÁRATE, A., A. BARTH, J.-M. BECKERS AND R.H. WEISBERG, Multivariate Reconstruction of Missing Data in Sea Surface Temperature, Chlorophyll and Wind Satellite Fields, *J. Geophys. Res.*, 112, C03008, doi: 10.1029/2006JC003660, 2007
- ALVERA-AZCÁRATE, A., A. BARTH, Z. BEN BOUALLÈGUE, M. RIXEN AND J.-M. BECKERS, Forecast verification of a 3D model of the Ligurian Sea. The use of discrete wavelet transforms and EOFs in the skill assessment of spatial forecasts, *Journal of Marine Systems*, 65: 460-483, 2007
- BARTH, A., A. ALVERA-AZCÁRATE, J.-M. BECKERS, M. RIXEN AND L. VANDENBULCKE, Multigrid state vector for data assimilation in a two-way nested model of the Ligurian Sea, *Journal of Marine Systems*, 65: 41-59, 2007
- BARTH, A., J.-M. BECKERS, A. ALVERA-AZCÁRATE, AND R. H. WEISBERG, Filtering inertia-gravity waves from the initial conditions of the linear shallow water equations, *Ocean Modelling*, 19, 204–218, 2007
- BECKERS, J.-M., E. ACHTERBERG AND CH. BRAUNGARDT, Comparison of high spatial resolution trace metal distributions with model simulations for surface waters of the Gulf of Cadiz, *Estuarine, Coastal and Shelf Science*. 74, (4), 599-609 doi:10.1016/j.ecss.2006.12.020, 2007
- LENARTZ, F., C. RAICK, K. SOETAERT AND M. GREGOIRE, Application of an Ensemble Kalman filter to a 1-D coupled hydrodynamic-ecosystem model of the Ligurian Sea, *Journal of Marine Systems*, 68: 327-348, 2007
- RAICK, C., A. ALVERA-AZCARATE, A. BARTH, J.-M. BRANKART, K. SOETAERT AND M. GRÉGOIRE, Application of a SEEK filter to a 1D biogeochemical model of the Ligurian Sea: twin experiments and real in-situ data assimilation, *Journal of Marine Systems*, 65: 561-583, 2007
- TIGNY, V., A. OZER, G. DE FALCO, M. BAROLI AND S. DJENIDI, Relationship between the evolution of the shoreline and the *Posidonia oceanica* meadow limit in a Sardinian coastal zone, *Journal of Coastal Research*, 23: 787–793, 2007

Papers in press or submitted

- ALVERA-AZCÁRATE, A., BARTH, A. AND R.H. WEISBERG, The mesoscale surface circulation of the Caribbean Sea and the Gulf of Mexico as inferred from satellite altimetry, *Submitted to Journal of Physical Oceanography*

- ALVERA-AZCÁRATE, A., BARTH, A. AND R.H. WEISBERG, A nested model of the Cariaco Basin (Venezuela): description of the basin's interior hydrography and interactions with the open ocean, *submitted to Ocean Dynamics*
- BARTH, A., A. ALVERA-AZCÁRATE, AND R.H. WEISBERG, A Nested Model Study of the Loop Current Generated Variability and its Impact on the West Florida Shelf, *J. Geophys. Res., in press*
- BARTH, A., A. ALVERA-AZCÁRATE, AND R.H. WEISBERG, Benefit of nesting a regional model into a large-scale ocean model instead of climatology. Application to the West Florida Shelf, *Continental Shelf Research, in press*
- DJENIDI S., JANSSENS M., AND LACROIX G., Observations and effects of the Martin extratropical cyclone in the NW coastal zone of Corsica island (France), submitted.
- TROUPIN, CH., P. SANGRÃ AND J. ARÃSTEGUI, Modeling annual cycles of phytoplankton, zooplankton and nutrients in the, *soumis au JMS*
- VANDENBULCKE, L., M. RIXEN, J.-M. BECKERS, A. ALVERA-AZCARATE, AND A. BARTH, An analysis of the error space of a high-resolution implementation of the GHER hydrodynamic model in the Mediterranean Sea., *submitted to Ocean Modeling*