

Curriculum Vitae – Prof. Dr. JOACHIM SAUR

Dr. Joachim Saur
W3 Professor for Geophysics
Institute of Geophysics and Meteorology
University of Cologne
Albertus-Magnus-Platz
50923 Cologne, Germany

Tel: +49-221-470-2310
Fax: +49-221-470-5198
saur@geo.uni-koeln.de

Education

- Ph.D., 2000, Geophysics (highest honors), University of Cologne, Germany
Title: Plasma Interaction of Io and Europa with the Jovian Magnetosphere
- Diplom, 1995, Physics, University of Stuttgart and University of Cologne, Germany

Professional Experience

2005 - present: Full Professor for Geophysics, University of Cologne, Germany
2011 & 2015: Visiting Professor, Johns Hopkins University
2003 - 2005: Senior Research Scientist, JHU/Applied Physics Laboratory, USA
2001 - 2002: Postdoctoral Fellow, Johns Hopkins University, Baltimore, USA
2000 - 2001: Postdoctoral Researcher, Observatoire de la Côte d’Azur, Nice, France
1996 - 2000: Research Assistant, Univ. of Cologne, Germany
1995 - 1995: Visitor Bartol Research Institute, and Johns Hopkins University, USA

Research

Interests: Planetary sciences and space physics, including planetary moons and the search for liquid water, extrasolar planets, brown dwarfs, magnetospheres, aurorae, turbulence in space plasmas

Interdisciplinary Interests: Neurology (Signal transport in patients with Parkinson’s disease)

Methods: Theory, numerical modeling, telescope and satellite observations, time-series analysis

Identifiers: ORCID 0000-0003-1413-1231, Web of Science ResearcherID V-6780-2019

Awards, Honors

ERC-Advanced Grant, 2020: Searching and Characterizing Extraterrestrial Subsurface Oceans (acronym: Exo-Oceans)

Induction into Society of Scholars, Johns Hopkins University, 2017

Gauss-Lecture of German Geophysical Society, 2010 (given at European Geoscience Union General Assembly)

Outstanding Student Paper Award, 1999 (American Geophysical Union)

Professional Affiliations

Deutsche Geophysikalische Gesellschaft

American Geophysical Union

Europlanet Society

Division of Planetary Sciences of the American Astronomical Society

Mission Participation & Science Projects

Hubble Space Telescope, 6 x PI: PI in Cycle 16 (2008), Cycle 18 (2010), Cycle 20 (2012), Cycle 24 (2016) , Cycle 27 (2019) , Cycle 28 (2021), Co-I in multiple Cycles (2007, 2009, 2013, 2014, 2015, 2016, 2017, 2019, 2020)

James Webb Space Telescope, Collaborator, Cycle 0, Early Release Science
ALMA, Co-I, Cycle 7, Cycle 8
Collaborator on NASA's JUNO mission (a Jupiter polar orbiter)
Co-I on Esa's JUICE mission (Jupiter Icy Moons Explorer) for RWPI and J-MAG instruments
Co-I on NASA's Europa mission for UVS-instrument and collaborator for PIMS (Particle) instrument

Services

Board of Reviewing Editors for Journal *Science* (2021 –)
Speaker of Competence Area: Quantitative Modeling of Complex Systems, within Excellence Initiative of Univ. of Cologne (2013-present)
Hubble Space Telescope, Time Allocation Committee, Cycle 14 (2005), Mid-Cycle 24 (2017), Mid-Cycle 25 (2018), External Reviewer Cycle 26 (2018), Mid-Cycle 27 (2019)
European Southern Observatory, Observing Programmes Committee, Cycles 82, 83 (2008)
ALMA, Time Allocation Committee, Cycle 1, 2, 3 (2012, 2014, 2015)
Chair Department of Geosciences, University of Cologne (2008-2009, 2013-2015).
Associated Editor, Journal of Geophysical Research, Space Physics (2008-2011)
Head of Planet Section of German Arbeitsgemeinschaft Extraterrestr. Forschung (2009-2017)
Jury Member, Francqui Foundation, 2015

Host/Organization of Conferences and Meetings

Workshop on the Jupiter system, University of Cologne, July, 6-7 2000;
Conference: Magnetospheres of the Outer Planets, University of Cologne, July, 2009;
Annual Meeting of German Geophysical Society and Arbeitskreis Extraterrestr. Forschung, Univ. Cologne, February, 2011
Conference: Numerical Techniques in MHD Simulations, Cologne, August, 2017

Talks for Public Outreach

Regular talks at Planetariums, Girls Days, Kinderuniversitaet, etc.

Press coverage of publications in: New York Times, BBC, Le Monde, Washington Post, USA Today, National Public Radio, Spiegel Online, Sueddeutsche Zeitung, Frankfurter Allgemeine, Zeit, Koelner Stadtanzeiger, etc.

Publications

129 peer-reviewed publications, including 8 publications in Nature & Science, 2 in Nature Astronomy, and 8 Book and Review Chapters, H-Index: 34 (after Web of Science) and 42 (after Google Scholar)

Peer-Reviewed Publications & Book Chapters

1. **Saur J.**, Willmes C., Fischer C., Wennmacher A., Roth L., Youngblood A, Strobel D.F., Reiners A., Brown dwarfs as candidates for detecting UV aurora outside the Solar System: Hubble Space Telescope observations of 2MASS J1237+6526, *Astron. Astrophysics*, in press, 2021

2. **Saur J**, Turbulence in the Magnetospheres of the Outer Planets, *Frontiers in Astronomy and Space Sciences*, 8:624602. doi: 10.3389/fspas.2021.624602, 2021
3. **Saur J**, Overview Moon-magnetosphere Interactions, *Space Physics and Aeronomy Collection Volume 2: Magnetospheres in the Solar System, Geophysical Monograph 259, First Edition.*, ed. R. Maggiolo, N. André, H. Hasegawa, D. Welling, American Geophysical Union. Published by John Wiley and Sons, Inc. DOI: 10.1002/9781119815624.ch36, 2021
4. Roth L., Ivchenko N., Gladstone G.R., **Saur J.**, et al. , A sublimated water atmosphere on Ganymede detected from Hubble Space Telescope observations, *Nature Astronomy*, DOI:10.1038/s41550-021-01426-9, 2021
5. Allegrini F., Kurth W.S., Elliott S.S., **Saur J.** et al., Electron partial density and temperature over Jupiters main auroral emission using Juno observations, *J. Geophys. Res. (Space Physics)*, doi.org/10.1029/2021JA029426, 2021
6. Verscharen, D. et al., A Case Study for Electron-Astrophysics, *Experimental Astronomy*, doi:10.1007/s10686-021-09761-5, 2021
7. Clark, G.; Mauk, B. H.; Kollmann, P.; Szalay, J. R.; Sulaiman, A. H.; Gershman, D. J.; **Saur, J.**; Janser, S.; Garcia-Sage, K.; Greathouse, T.; Paranicas, C.; Allegrini, F.; Bagenal, F.; Bolton, S. J.; Connerney, J. E. P.; Ebert, R. W.; Hospodarsky, G.; Haggerty, D.; Hue, V.; Imai, M., et al., Energetic Proton Acceleration Associated With Io's Footprint Tail, *J. Geophys. Res. Lett.*, DOI: 10.1029/2020GL090839, 2020
8. Blanc, M. et al., Joint Europa Mission (JEM): a multi-scale study of Europa to characterize its habitability and search for extant life, Joint Europa Mission (JEM): a multi-scale study of Europa to characterize its habitability and search for extant life, *Planetary and Space Science*, Volume 193, 104960, DOI: 10.1016/j.pss.2020.104960, 2020
9. Szalay, J. R.; Allegrini, F.; Bagenal, F.; Bolton, S. J.; Bonfond, B.; Clark, G.; Connerney, J. E. P.; Ebert, R. W.; Hue, V.; Giles, R. S.; Gladstone, G. R.; Greathouse, T.; Hospodarsky, G. B.; McComas, D. J.; **Saur, J.**, Sulaiman, A.H., Wilson R.J., A new framework to explain changes in Ios footprint tail electron fluxes, *J. Geophys. Res. Lett.*, doi.org/10.1029/2020GL089267, in press, 2020
10. Sulaiman, A.H., G. B. Hospodarsky, S. S. Elliott, W. S. Kurth, D. A. Gurnett, M. Imai, F. Allegrini, B. Bonfond, G. Clark, J. E. P. Connerney, R. W. Ebert, D. J. Gershman, V. Hue, S. Janser, S. Kotsiaros, C. Paranicas, O. Santolik, **J. Saur**, J. R. Szalay, S. J. Bolton, Waveparticle interactions associated with Ios auroral footprint: Evidence of Alfvén, ion cyclotron, and whistler modes, *J. Geophys. Res. Lett.*, doi.org/10.1029/2020GL088432, 2020
11. Allegrini, F.; Gladstone, G. R.; Hue, V.; Clark, G.; Szalay, J. R.; Kurth, W. S.; Bagenal, F.; Bolton, S.; Connerney, J. E. P.; Ebert, R. W.; Greathouse, T. K.; Hospodarsky, G. B.; Imai, M.; Louarn, P.; Mauk, B. H.; McComas, D. J.; **Saur, J.**; Sulaiman, A. H.; Valek, P. W.; Wilson, R. J., First Report of Electron Measurements During a Europa Footprint Tail Crossing by Juno, 47, *J. Geophys. Res. (Space Physics)*, doi.org/10.1029/2020GL089732, 2020
12. Soderlund K.M., Kalousova K., Buffo J. J., Glein C.R., Goodman, J.C. Mitri G., Patterson G., Postberg F., Rovira-Navarro M., Rueckriemen T., **Saur J.**, et al., Ice-ocean exchange

- processes in outer solar system satellites, *Space Sci. Rev.*, 216, 216:80, doi.org/10.1007/s11214-020-00706-6, 2020
13. Roth L., Boissier J., Moullet A., Snchez-Monge A., de Kleere K., Yoneda M., Hikida R., Kita H., Tsuchiya F., Bloecker A., Gladstone R., Grodent D., Ivchenko N., Lellouch E., Retherford. K., **Saur J.**, et al., An attempt to detect transient changes in Io's SO₂ and NaCl atmosphere, *Icarus*, 350, doi.org/10.1016/j.icarus.2020.113925, 2020
 14. Allegrini, F.; Mauk, B.; Clark, G.; Gladstone, G. R.; Hue, V.; Kurth, W. S.; Bagenal, F.; Bolton, S.; Bonfond, B.; Connerney, J. E. P.; Ebert, R. W.; Greathouse, T.; Imai, M.; Levin, S.; Louarn, P.; McComas, D. J.; **Saur J.**, et al., Energy flux and characteristic energy of electrons over Jupiter's main auroral emission *J. Geophys. Res. (Space Physics)*, doi.org/10.1029/2019JA027693, 2020
 15. Giono G., Roth L., Ivchenko N., **Saur J.**, Retherford K., Schegel. S., et al., An analysis of the statistics and systematics of limb anomaly detections in HST/STIS transit images of Europa, *Astrophys. J.*, 159, doi.org/10.3847/1538-3881/ab7454, 2020
 16. Szalay, J. R.; Allegrini, F.; Bagenal, F.; Bolton, S. J.; Bonfond, B.; Clark, G.; Connerney, J. E. P.; Ebert, R. W.; Gershman, D. J.; Giles, R. S.; Gladstone, G. R.; Greathouse, T.; Hospodarsky, G. B.; Imai, M.; Kurth, W. S.; Kotsiaros, S.; Louarn, P.; McComas, D. J.; **Saur, J.**, et al., Alfvénic Acceleration Sustains Ganymede's Footprint Tail Aurora, *J. Geophys. Res. Lett.*, 47, e2019GL086527, doi.org/10.1029/2019GL086527, 2020
 17. Journaux, B., Kalousov, K.; Sotin, C.; Tobie, G.; Vance, S.; **Saur, J.**; Bollengier, O.; Noack, L.; Rueckriemen-Bez, T.; Van Hoolst, T.; Soderlund, K.; Brown, M Large Ocean Worlds with High-Pressure Ices, *Space Sci. Rev.*, 216: 7., doi.org/10.1007/s11214-019-0633-7, 2020
 18. Taubner, R.; Olsson-Francis, K.; Vance, S.; Ramkissoon, N.; Postberg, F.; de Vera, J.; Antunes, A.; Camprubi Casas, E.; Sekine, Y.; Noack, L.; Barge, L.; Goodman, J.; Jebbar, M.; Journaux, B.; Karatekin, O.; Klenner, F.; Rabbow, E.; Rettberg, P.; Rueckriemen-Bez, T.; **Saur, J.**, et al. Experimental and Simulation Efforts in the Astrobiological Exploration of Exooceans, *Space Sci. Rev.*, 216: 9. <https://doi.org/10.1007/s11214-020-0635-5>, 2020
 19. Szalay, J. R.; Bagenal, F.; Allegrini, F.; Bonfond, B.; Clark, G.; Connerney, J. E. P.; Crary, F.; Ebert, R. W.; Ergun, R. E.; Gershman, D. J.; Hinton, P. C.; Imai, M.; Janser, S.; McComas, D. J.; Paranicas, C.; **Saur, J.**, et al. Proton Acceleration by Io's Alfvénic Interaction, *J. Geophys. Res. (Space Physics)*, 125, doi:10.1029/2019JA027314R, 2020
 20. Kotsiaros, S.; Connerney, J.; Clark, G.; Allegrini, F.; Gladstone, R.; Kurth, W.; Mauk, B.; **Saur, J.**, et al., Birkeland currents in Jupiter's magnetosphere observed by the polar orbiting Juno spacecraft, *Nature Astronomy*, 10.1038/s41550-019-0819-7, 2019
 21. Hue V., Greathouse T.K., Bonfond B., **Saur J.**, Gladstone R., Roth L., et al., Juno-UVS Observation of the Io Footprint During Solar Eclipse, *J. Geophys. Res. (Space Physics)*, 124, 10.1029/2018JA026431 (2019)
 22. Fischer C. and **J. Saur**, Time-variable electromagnetic star-planet interaction: The Trappist-1 system as an exemplary case, *Astrophys. J*, doi:10.3847/1538-4357/aafaf2, 872:113 (17pp), 2019

23. **Saur J.**, S. Janser, A. Schreiner, G.C. Clark, B.H. Mauk, P. Kollmann, R.W. Ebert, F. Allegrini, J.R. Szalay, S. Kotsiaros, Wave-particle interaction of Alfvén waves in Jupiter’s magnetosphere: Auroral and magnetospheric particle acceleration, *J. Geophys. Res. (Space Physics)*, doi: 10.1029/2018ja025948, 123, 9560, 2018
24. **Saur J.**, C. Fischer, A. Wennmacher, P.D. Feldman, L. Roth, D.F. Strobel, A. Reiners, The UV Spectrum of the Ultracool Dwarf LSR J1835+3259 Observed with the Hubble Space Telescope, *Astrophys. J.*, 859:74, 11pp, 2018
25. **Saur J.**, Electromagnetic Coupling in Star-Planet Systems, *Handbook of Exoplanets*, Springer, doi:10.1007/978-3-319-55333-7_27, id.27, 2018
26. **Saur J.**, E. Chané, O. Hartkorn, Modeling Magnetospheric Fields in the Jupiter System, *Magnetic Fields in the Solar System*, Springer, Edited by H. Lühr et al., vol. 448, pp. 153-182, 2018
27. Mura, A.; Adriani, A.; Connerney, J. E. P.; Bolton, S.; Altieri, F.; Bagenal, F.; Bonfond, B.; Dinelli, B. M.; Grard, J. -C.; Greathouse, T.; Grodent, D.; Levin, S.; Mauk, B.; Moriconi, M. L.; **J. Saur** et al., Juno observations of spot structures and a split tail in Io-induced aurorae on Jupiter, **Science**, 10.1126/science.aat1450, 361, 774, 2018
28. Blöcker, A., **J. Saur**, L. Roth, D.F. Strobel, MHD Modeling of the Plasma Interaction with Io’s Asymmetric Atmosphere, *J. Geophys. Res. (Space Physics)*, DOI: 10.1002/2018JA025747, 123, 9286, 2018
29. Szalay, J. R.; Bonfond, B.; Allegrini, F.; Bagenal, F.; Bolton, S.; Clark, G.; Connerney, J. E. P.; Ebert, R. W.; Ergun, R. E.; Gladstone, G. R.; Grodent, D.; Hospodarsky, G. B.; Hue, V.; Kurth, W. S.; Kotsiaros, S.; Levin, S. M.; Louarn, P.; Mauk, B.; McComas, D. J.; **Saur, J.**, et al. In-Situ Observations Connected to the Io Footprint Tail Aurora, *J. Geophys. Res. (Planets)*, doi:10.1029/2018JE005752R, 2018
30. Bohm M., Winters A.R., Gassner G.J., Derigs D., Hindenlang F., **J. Saur**, An entropy stable nodal discontinuous Galerkin method for the resistive MHD equations. Part I: Theory and Numerical Verification, *J. Comp. Phys.*, in press
31. Clark G. et al., Precipitating Electron Energy Flux and Characteristic Energies in Jupiter’s Main Auroral Region as Measured by Juno/JEDI, *Journal of Geophysical Research: Space Physics*, doi:10.1029/2018JA025639, 123, 75547567, 2018
32. Becker T.M., K.D. Retherford, L. Roth, A.R. Hendrix, M.A. McGrath, **J. Saur**, The Far-UV Albedo of Europa from HST Observations, *J. Geophys. Res.*, 122, doi:10.1029/2018JE005570, 2018
33. Grodent D., et al., Jupiter’s Aurora Observed with HST during Juno Orbits 3 to 7 *J. Geophys. Res.* , doi.org/10.1002/2017JA025046, 2018
34. Plainaki C., et al., Towards a global unified model of Europas tenuous atmosphere. *Space Science Reviews*, 214(1), 40, doi:10.1007/s11214-018-0469-6, 2018
35. Chané E., **J. Saur**, J. Raeder J., F.M. Neubauer, K.M. Maynard, S. Poedts, The magnetosphere of the Earth under sub-Alfvénic solar wind conditions as observed on the 24th and 25th of May 2002, in *Down-Dusk-Asymmetries in Planetary Plasma Environments*, *AGU Monograph Series*, American Geophysical Union, 3-13, 2017

36. von Papen M., H. Dafsari, E. Florin, F. Gerrick, L. Timmermann, **J. Saur**, Phase-coherence classification: a new wavelet-based method to separate local field potentials into local (in)coherent and volume-conducted components, *J. Neuroscience Methods*, 291C, 198-212, DOI: 10.1016/j.jneumeth.2017.08.021, 2017
37. Hartkorn O. and **J. Saur**, Induction signals from Callisto's ionosphere and their implications on a possible subsurface ocean. *J. Geophys. Res.*, 122, doi:10.1002/2017JA024269, 2017
38. Ebert R.W. et al., Spatial Distribution and Properties of 0.1 - 100 keV Electrons in Jupiter's Polar Aurora Region, *Geophys. Res. Lett.*, 44, doi: 10.1002/2017GL075106, 2017
39. Clark G. et al., Energetic particle signatures of magnetic field-aligned potentials over Jupiter's polar regions, *Geophys. Res. Lett.*, 44, doi:10.1002/2017GL074366, 2017
40. B. Bonfond, **J. Saur**, D. Grodent, S.V. Badman, D. Bisikalo, V. Shematovhich, J.-C. Gérard, A. Radiotti, The tails of the satellite auroral footprints at Jupiter, *J. Geophys. Res.*, 122, doi:10.1002/2017JA024370, 2017
41. J. Alday, L. Roth, N. Ivchenko, K.D. Retherford, T.M. Becker, P. Molyneux, **J. Saur**, New constraints on Ganymede's hydrogen corona: Analysis of Lyman- α emissions observed by HST/STIS between 1998 and 2014 *Planet. Space Science*, 148, 35-44, doi:10.1016/j.pss.2017.10.006, 2017
42. F. Gerick, **J. Saur**, M. von Papen, The uncertainty of Local Background Magnetic Field Orientation in Anisotropic Plasma Turbulence, *Astrophys. J.*, 843, 5, doi:10.3847/1538-4357/aa767c, 2017
43. A. Schreiner and **J. Saur**, A Model for Dissipation of Solar Wind Magnetic Turbulence by Kinetic Alfvén Waves at Electron Scales: Comparison with Observations, *Astrophys. J.*, 835, 133, doi:10.3847/1538-4357/835/2/133, 2017
44. Roth L., **J. Saur**, K.D. Retherford, A. Blöcker, D.F. Strobel, P.D. Feldman, Constraints on Io's interior from auroral spot oscillations, *J. Geophys. Res.*, 122, 1903-1927, doi: 10.1002/2016JA023220, 2017
45. B. Bonfond, D. Grodent, S.V. Badman, **J. Saur**, J.-C. Gérard, A. Radiotti, Similarity of the Jovian satellite footprints: Spots multiplicity and dynamics, *Icarus*, 292, 208-217, 2017
46. E. Chané, **J. Saur**, R. Keppens, and S. Poedts, How is the Jovian Main Auroral Emission Affected by the Solar Wind?, *J. Geophys. Res. Space Physics*, 122, 1960-1978, doi:10.1002/2016JA023318, 2017
47. Musacchio F., **J. Saur**, L. Roth, K.D. Retherford, M.A. McGrath, P.D. Feldman, and D.F. Strobel, Morphology of Ganymede's FUV auroral ovals, *J. Geophys. Res.*, 122, 2855-2876, doi:10.1002/2016JA023220, 2017
48. Hartkorn O., **J. Saur**, D.F. Strobel, Structure and Density of Callisto's Atmosphere from a Fluid-Kinetic Model of Its Ionosphere and Comparison with Hubble Space Telescope and Galileo Observations, *Icarus*, 282, 237-259, DOI: 10.1016/j.icarus.2016.09.020, 2017

49. Blöcker, A., **J. Saur**, L. Roth, Europa's Plasma Interaction with an Inhomogeneous Atmosphere: Development of Alfvén Winglets within the Alfvén wings, *J. Geophys. Res. (Space Physics)*, 121, 9794-9829, DOI: 10.1002/2016JA022479, 2016
50. von Papen M. and **J. Saur**, Longitudinal and local time asymmetry of magnetospheric turbulence in Saturn's plasma sheet, *J. Geophys. Res. (Space Physics)*, 121, DOI: 10.1002/2016JA022427, 2016
51. Roth L., **J. Saur**, K.D. Retherford, D.F. Strobel, P.D. Feldman, M.A. McGrath, J.R. Spencer, A. Bloecker, N. Ivchenko, Europa's far ultraviolet oxygen aurora from a comprehensive set of HST observations, *J. Geophys. Res. (Space Physics)*, 121, doi: 10.1002/2015JA022073, 2016
52. Roth L., N. Ivchenko, K.D. Retherford, N.J. Cunningham, P.D. Feldman, **J. Saur**, J.R. Spencer, D.F. Strobel, Constraints on an exosphere at Ceres from Hubble Space Telescope observations, *Geophys. Res. Lett.*, 43, doi:10.1002/2015GL067451, 2016
53. Chané E., Raeder J., **J. Saur**, Neubauer F.M., Maynard K.M., Poedts S., Simulations of the Earth's Magnetosphere Embedded in sub-Alfvénic Solar Wind on 24 and 25 May 2002, *J. Geophys. Res. (Space Physics)*, 120, doi:10.1002/2015JA021515, 2015
54. von Papen M., **J. Saur**, Forward Modeling of Reduced Power Spectra from Three-dimensional k-space, *Astr. Phys. J.*, 806, 11, 116, 2015
55. **Saur J.**, et al., The Search for a Subsurface Ocean in Ganymede with Hubble Space Telescope Observations of its Auroral Ovals *J. Geophys. Res.*, 120, 1715-1737, 2015
56. Roth L., K. D. Retherford, **J. Saur**, D. F. Strobel, P. D. Feldman, M. A. McGrath, F. Nimmo, Orbital apocenter is not a sufficient condition for HST/STIS detection of Europas water vapor aurora, *Proc. Nat. Acad. Sciences*, 111 (48) E5123-E5132, doi:10.1073/pnas.141667111, 2014
57. Roth L.*, **J. Saur***, K. D. Retherford, D. F. Strobel, P. D. Feldman, M. A. McGrath, F. Nimmo, Transient water vapor at Europa's south pole, **Science**, 343(6167), 171-174, 2014 (*: equal contribution)
58. von Papen M., **J. Saur**, O. Alexandrova, Turbulent magnetic field fluctuations in Saturn's magnetosphere, *J. Geophys. Res. (Space Physics)*, 119, 2014
59. Duling, S., **J. Saur**, Wicht J., Consistent boundary conditions at nonconducting surfaces of planetary bodies: Applications in a new Ganymede MHD model, *J. Geophys. Res. (Space Physics)*, 119, 4412-4440, 2014
60. Kriegel, H., S. Simon, P. Meier, U. Motschmann, **J. Saur**, A. Wennmacher, D.F. Strobel, M.K. Dougherty, Ion densities and magnetic signatures of dust pickup at Enceladus, *J. Geophys. Res. (Space Physics)*, 119, 2740-2774, 2014
61. Simon, S., **J. Saur**, S. C. Treeck, H. Kriegel, M.K. Dougherty, Discontinuities in the magnetic field near Enceladus, *Geophys. Res. Lett.*, 41, 3359-3366, 2014
62. L. Roth, **J. Saur**, K. D. Retherford, P. D. Feldman, D. F. Strobel A phenomenological model of Io's UV aurora based on HST/STIS observations, *Icarus*, (228), 386-406, 2014

63. Plainaki, C., A. Milillo, A. Mura, **J. Saur**, S. Orsini, S. Massetti, Exospheric O₂ densities at Europa during different orbital phases, *Planet. Space Science*, 88, 42-52, 2013
64. Bonfond B., S. Hess, J.-C. Gérard, D. Grodent, A. Radioti, V. Chantry, **J. Saur**, S. Jacobsen, J.T. Clarke, Evolution of the Io footprint brightness I: Far-UV observations, *Planet. Space Science*, 88, 64-75, 2013
65. M. McGrath, X. Jia, K. Retherford, P.D. Feldman, D. F. Strobel, **J. Saur**, Aurora on Ganymede, *J. Geophys. Res. (Space Physics)*, 118(5), 2043-2054, 2013
66. Simon S., H. Kriegel, **J. Saur**, A. Wennmacher, Energetic aspects of Enceladus' magnetospheric interaction, *J. Geophys. Res. (Space Physics)*, 118(6), 3430-3445, 2013
67. **Saur J.**, T. Grambusch, S. Duling, F. M. Neubauer, S. Simon, Magnetic energy fluxes in sub-Alfvénic planet star and moon planet interactions, *Astron. Astrophys.*, 552, 20, 2013
68. Chané E., **J. Saur**, S. Poedts, Modeling Jupiter's magnetosphere: Influence of the internal sources, *J. Geophys. Res. (Space Physics)*, 118(5), 2157-2172, 2013
69. Simon S., S.C. Treeck, A. Wennmacher, **J. Saur**, F.M. Neubauer, C.L. Bertucci, M.K. Dougherty, Structure of Titan's induced magnetosphere under varying background, magnetic field conditions: Survey of Cassini magnetometer data from flybys TA-T85, *J. Geophys. Res. (Space Physics)*, 118(4), 1679-1699, 2013
70. Simon S., H. Kriegel, **J. Saur**, A. Wennmacher, F.M. Neubauer, E. Roussos, U. Motschmann, M.K. Dougherty, Analysis of Cassini magnetic field observations over the poles of Rhea, *J. Geophys. Res. (Space Physics)*, 117(A7), JA017747, 2012
71. Simon S., H. Kriegel, **J. Saur**, A. Wennmacher, F.M. Neubauer, E. Roussos, U. Motschmann, M.K. Dougherty, Analysis of Cassini magnetic field observations over the poles of Rhea, *J. Geophys. Res. (Space Physics)*, 117(A7), JA017747, 2012
72. Chané E., **J. Saur**, F.M. Neubauer, J. Raeder, S. Poedts, Observational evidence of Alfvén wings at the Earth, *J. Geophys. Res. (Space Physics)*, 117(A9), JA017628, 2012
73. Christophe B., et al., OSS (Outer Solar System): a fundamental and planetary physics mission to Neptune, Triton and the Kuiper Belt, *Experimental Astronomy*, 34(2), 203-242, 2012
74. Arridge C.S., et al., Uranus Pathfinder: exploring the origins and evolution of Ice Giant planets. *Experimental Astronomy*, 33(2), 753-791 2012
75. Seufert M., **J. Saur** und F.M. Neubauer Multi-frequency electromagnetic sounding of the Galilean moons *Icarus*, 214(2), 477-494, 2011
76. **Saur J.**, D. Paul, L. Roth, F. Nimmo, D.F. Strobel, F. Darell, K.D. Retherford, M.A. McGrath, N. Schilling, J.-C. Grard, D. Grodent Hubble Space Telescope/Advanced Camera for Surveys Observations of Europa's Atmospheric Ultraviolet Emission at Eastern Elongation. *Astrophys. J.*, 738(2), 13pp., 2011
77. Kriegel H., S. Simon, U. Motschmann, **J. Saur**, F.M. Neubauer, A.M. Persoon, M.K. Dougherty, D.A. Gurnett, Influence of negatively charged plume grains on the structure of Enceladus' Alfvén wings: Hybrid simulations versus Cassini Magnetometer data. *J. Geophys. Res (Space Physics)*, 116(A10223), 2011

78. Roth L., **J. Saur**, K.D. Retherford, D.F. Strobel, J.R. Spencer Simulation of Io's auroral emission: Constraints on the atmosphere in eclipse. *Icarus*, 214(2):495-509, 2011
79. Simon, S. and **Saur**, J. and Neubauer, F. M. and Wennmacher, A. and Dougherty, M. K., Magnetic signatures of a tenuous atmosphere at Dione, *Geophys. Res. Lett.*, 38, L15102, 2011
80. Pryor, W. R.; Rymer, A. M.; Mitchell, D. G.; Hill, T. W.; Young, D. T.; **Saur, J.**; et al., The auroral footprint of Enceladus on Saturn, **Nature**, 472, 331-333, 2011
81. Simon, S. and **Saur**, J. and Kriegel, H. and Neubauer, F. M. and Motschmann, U. and Dougherty, M. K., Influence of negatively charged plume grains and hemisphere coupling currents on the structure of Enceladus' Alfvén wings: Analytical modeling of Cassini magnetometer observations, *J. Geophys. Research (Space Physics)*, 116, A04221, 2011
82. Müller, J. and Simon, S. and Motschmann, U. and Glassmeier, K.-H. and **Saur**, J. and Schüle, J. and Pringle, G. J., Magnetic field fossilization and tail reconfiguration in Titan's plasma environment during a magnetopause passage: 3D adaptive hybrid code simulations, *Planetary and Space Science*, 58, 1526-1546, 2010
83. Simon, S. and Wennmacher, A. and Neubauer, F. M. and Bertucci, C. L. and Kriegel, H. and **Saur**, J. and Russell, C. T. and Dougherty, M. K., Titan's highly dynamic magnetic environment: A systematic survey of Cassini magnetometer observations from flybys TA-T62, *Planetary and Space Science*, 58, 1230-1251, 2010
84. Müller, A. L. and **Saur**, J. and Krupp, N. and Roussos, E. and Mauk, B. H. and Rymer, A. M. and Mitchell, D. G. and Krimigis, S. M., Azimuthal plasma flow in the Kronian magnetosphere, *J. Geophys. Res.*, 115, A14, A08203, 2010
85. Wulms, V. and **Saur**, J. and Strobel, D. F. and Simon, S. and Mitchell, D. G., Energetic neutral atoms from Titan: Particle simulations in draped magnetic and electric fields, *Journal of Geophysical Research (Space Physics)*, 2010, 115, A06310, 2010
86. **Saur**, J. and Neubauer, F. M. and Glassmeier, K.-H., Induced Magnetic Fields in Solar System Bodies, *Space Science Reviews*, 152, 391-421, 2010
87. S. Jacobsen, **J. Saur**, F.M. Neubauer, B. Bonfond, J.-C. Gérard and D. Grodent, The Location and the Spatial Shape of Electron Beam's in Io's Wake, *J. Geophys. Res.*, A04205, 2010
88. Kurth W., et al., Auroral Processes, in *Saturn after Cassini-Huygens*, ed. M.K. Dougherty, L.W. Esposito and S.M. Krimigis, 2009
89. Kriegel H., S. Simon, J. Mueller, U. Motschmann, **J. Saur**, K.-H. Glassmeier, M.K. Dougherty, The plasma interaction of Enceladus: 3D Hybrid simulations and comparison with Cassini MAG data, *Planetary and Space Science*, 57, 2113-2122, 2009
90. Alexandrova, O., **J. Saur**, C. Lacombe, A. Mangeney, J. Mitchell, S.J. Schwartz, and P. Robert, Universality of Solar-Wind Turbulent Spectrum from MHD to Electron Scales, *Phys. Rev. Lett.*, 103, 165003, 2009
91. Coustenis A. et al., TandEM: Titan and Enceladus mission, *Experimental Astronomy*, 23, 893-946, 2009

92. Simon S., U. Motschmann, G. Kleindienst, **J. Saur**, C. L. Bertucci, M. K. Dougherty, C. S. Arridge, and A. J. Coates, Titan's plasma environment during a magnetosheath excursion: Real-time scenarios for Cassini's T32 flyby from a hybrid simulation, *Ann. Geophys.*, 27, 669-685, 2009
93. Mitchell, D. G.; Kurth, W. S., Hospodarsky, G. B., Krupp, N., **Saur**, J., Mauk, B. H., Carbary, J. F., Krimigis, S. M.; Dougherty, M. K.; Hamilton, D. C., Ion conics and electron beams associated with auroral processes on Saturn, *J. Geophys. Res.*, 114, A02212, 2009
94. Simon, S., **Saur**, J., Neubauer, F. M., Motschmann, U., Dougherty, M. K., Plasma wake of Tethys: Hybrid simulations versus Cassini MAG data, *Geophys. Res. Lett.*, 36, L04108, 2009
95. **Saur J.**, et al., Evidence for temporal variability of Enceladus' gas jets: Modeling of Cassini observations, *Geophys. Res. Lett.*, 35, L20105, 2008
96. Jones G.H. et al., The dust halo of Saturn's largest icy moon, Rhea, **Science**, 319, 1380, 2008
97. Alexandrova O. and **J. Saur**, Alfvén vortices in Saturn's magnetosheath: Cassini observations, *Geophys. Res. Lett.*, 35, L15102, 2008
98. Bonfond B., D. Grodent, J.C. Gérard, A Radioti, **J. Saur** and S. Jacobsen, UV Io footprint leading spot: A key feature of understanding the UV Io footprint multiplicity?, *Geophys. Res. Lett.*, 35, L05107, 2008
99. Schilling N., F.M. Neubauer, **J. Saur**, Influence of the internally induced magnetic field on the plasma interaction of Europa *J. Geophys. Res.*, 113, A03203, 2008
100. **Saur J.**, F.M. Neubauer, and N. Schilling, Hemisphere coupling in Enceladus' asymmetric plasma interaction, *J. Geophys. Res.*, 112, A11209, 2007
101. Mauk B.H. and **J. Saur**, Equatorial electron beams and auroral structuring at Jupiter, *J. Geophys. Res.*, 112, A10221, 2007
102. Schilling N., F.M. Neubauer, **J. Saur**, Time-varying interaction of Europa with the jovian magnetosphere: Constraints on the conductivity of Europa's subsurface ocean, *Icarus* 192, 41-55, 2007
103. Retherford K.D., J.R. Spencer, S.A. Stern, **J. Saur**, et al., Io's Atmospheric Response to Eclipse: UV Aurorae Observations, **Science**, 318, 237, 2007
104. Jacobsen S., F.M. Neubauer, **J. Saur** and N. Schilling, Io's nonlinear MHD-wave field in the heterogeneous Jovian magnetosphere, *Geophys. Res. Lett.*, 34, L10202, 2007
105. Bonfond B., J.-C. Gérard, D. Grodent and **J. Saur**, Ultraviolet Io footprint short timescale dynamics, *Geophys. Res. Lett.*, 34, L06201, 2007
106. **Saur J.** et al., B.H. Mauk, D.G. Mitchell, N. Krupp, K.K. Khurana, S. Livi, S.M. Krimigis, P.T. Newell, D.J. Williams, P.C. Brandt, A. Lagg, E. Roussos, M.K. Dougherty, Anti-planetward auroral electron beams at Saturn, **Nature**, 439, 699-702, 2006
107. Dougherty M.K., K.K. Khurana, F.M. Neubauer, C.T. Russell, **J. Saur**, J.S. Leisner, and M.E. Burton, Identification of a dynamic atmosphere at Enceladus with the Cassini magnetometer, **Science**, 311, 1406, 2006
108. F.M. Neubauer et al., Titan's magnetotail from magnetic field and electron plasma observations and modeling: Cassini flybys TA, TB, and T3, *J. Geophys. Res.*, 112, A10220, 2006

109. Krimigis, S.M. et al., Dynamics of Saturn's Magnetosphere from MIMI During Cassini's Orbital Insertion, **Science**, 307, 1270-1273, 2005
110. Brandt P.C., D.G. Mitchell, E.C. Roelof, S.M. Krimigis, C.P. Paranicas, B.H. Mauk, **J. Saur** and R. DeMajistre, ENA imaging: Seeing the invisible, *Johns Hopkins APL Technical Digest*, 26, 143-155, 2005
111. Paranicas C., D.G. Mitchel, S. Livi, S.M. Krimigis, E. Roussos, N. Krupp, J. Woch, A. Lagg, **J. Saur**, F.S. Turner, Evidence of Enceladus and Tethys microsignatures, *Geophys. Res. Lett.*, 32, L2010, 2005
112. B.H. Mauk, **J. Saur**, D.G. Mitchell, E.C. Roelof, P.C. Brandt, T.P. Armstrong, D.C. Hamilton, S.M. Krimigis, N. Krupp, S.A. Livi, J.W. Manweiler and C.P. Paranicas, Energetic particle injections in Saturn's magnetosphere, *Geophys. Res. Lett.*, 32, L14S05, 2005
113. **Saur J.** and D.F. Strobel, Atmospheres and plasma interactions at Saturn's largest inner icy satellites, *Astrophys. J.*, 620, L115-L118, 2005
114. **Saur J.**, F.M Neubauer, P. Zarka, J. Connerney, and M.G. Kivelson, Io's plasma interaction with its torus, in *Jupiter*, ed. F. Bagenal, T. Dowling, W. McKinnon, 537-560, 2004
115. Kivelson M.G., F. Bagenal, W. Kurth, F. M. Neubauer, C. Paranicas, **J. Saur**, Magnetospheric interactions with satellites, in *Jupiter*, ed. F. Bagenal, T. Dowling, W. McKinnon, 513-536, 2004
116. **Saur, J.** and D.F. Strobel, Relative contributions of sublimation and volcanoes to Io's atmosphere inferred from its plasma interaction during solar eclipse, *Icarus*, 171, 411-420, 2004
117. **Saur, J.**, B.H. Mauk, A. Kassner, and F.M. Neubauer, A model for the azimuthal plasma velocity in Saturn's magnetosphere, *J. Geophys. Res.*, 109, A05217, 2004
118. **Saur, J.**, A model of Io's local electric field for a combined Alfvénic and unipolar-inductor far-field coupling, 109, A01210, doi:10.1029/2002JA009354, *J. Geophys. Res.*, 2004
119. **Saur, J.**, Turbulent heating of Jupiter's middle magnetosphere, *Astrophys. J.* , 602:L137-L140, 2004
120. Geissler P., A. McEwen, C. Porco, D.F. Strobel, **J. Saur**, J. Ajello, R. West, Cassini observations of Io's visible aurorae, *Icarus*, 172, 127-140, 2004
121. **Saur, J.**, A. Pouquet, and W.H. Matthaeus, An acceleration mechanism for the generation of the main auroral oval on Jupiter, *Geophys. Res. Lett.*, 30(5), 1260, doi:10.1029/2002GL015761, 2003
122. **Saur, J.**, D.F. Strobel, F.M. Neubauer and M.E. Summers, The ion mass loading rate at Io, *Icarus*, 163, 456-468, 2003
123. **Saur, J.**, H. Politano, A. Pouquet, and W.H. Matthaeus, Evidence for weak turbulence in Jupiter's middle magnetosphere, *Astron. & Astrophys.*, 386(2), 699, 2002
124. **Saur, J.**, F.M. Neubauer, D.F. Strobel and M.E. Summers, Interpretation of Galileo's Io plasma and field observations: IO, I24, and I27 flybys and close polar passes, *J. Geophys. Res.*, 107, 1422, 2002
125. Strobel D.F., **J. Saur** , P.D. Feldman, and M.A. McGrath, HST/STIS search for an atmosphere on Callisto: A Jovian unipolar inductor, *Astrophys. J.* , 581,L51-L54, 2002

126. **Saur, J.**, F.M. Neubauer, D.F. Strobel, and M.E. Summers, Io's ultraviolet aurora: Remote sensing of Io's interaction, *Geophys. Res. Letters*, 27, 2893-2896, 2000
127. **Saur, J.**, F.M. Neubauer, D.F. Strobel, and M.E. Summers, Three-dimensional plasma simulation of Io's interaction with the Io plasma torus: Asymmetric plasma flow, *J. Geophys. Res.*, 104, 25,105-25,126, 1999
128. **Saur, J.**, and J.W. Bieber, Geometry of low frequency solar wind magnetic turbulence: Evidence for radially aligned Alfvénic fluctuations, *J. Geophys. Res.*, 104, 9,975-9,988, 1999
129. **Saur, J.**, D.F. Strobel, and F.M. Neubauer, Interaction of the Jovian magnetosphere with Europa: Constraints on the neutral atmosphere, *J. Geophys. Res.*, 103, 19,947-19,962, 1998

Recent Invited Talks

Colloquium Boston University, Boston, USA (2020) (postponed due to Corona), Colloquium University of New Hampshire, Durham, USA (2020) (postponed due to Corona), German Physical Society Spring Meeting, Bonn, Germany (2020 (canceled due to Corona), Magnetospheres of the Outer Planets Conference, Sendai, Japan (2019); Europlanet workshop, Outer planet moon-magnetosphere interactions, Selfoss, Iceland (2019); Space Exploration of the Outer Solar System Icy Moons Oceans, ISSI, Bern Switzerland (2018), Magnetospheres of the Outer Planets Conference, Uppsala, Sweden (2017); Max Planck Institute for Solar System Research, Göttingen, Germany (2017); ESTEC, Noordwijk, Netherlands (2016); THOR-Turbulence Meeting, Barcelona, Spain (2016); Chapman Conference, Dubrovnik, Croatia (2016); Free University Berlin (2016); KTH, Stockholm, Sweden (2016); Applied Physics Laboratory, Johns Hopkins University, Laurel, USA (2015); Forschungszentrum Jülich, Germany (2015); Academy of Sciences NRW, Düsseldorf, Germany (2015), European Space Weather Week, Oostende, Belgium (2015)

Teaching and Supervision

Supervision:

PhD: 10 finished, 3 ongoing, Master: ≥ 22 , Bachelor: ≥ 30 , Habilitation: 1, Postdoc: 5, several students co-supervised

Classes:

1. 2020 Summer, Introduction to Geophysics, Bachelor: Geophysics and Meteorology (2 hours)
2. 2020 Summer, Space Physics, Master: Physics of the Earth and Atmosphere (3 hours, 2 hours exercises)
3. 2020 Summer, Literature Seminar, Bachelor: Geophysics and Meteorology (2 hours)
4. 2019 Winter, Welt im Computer, organized by Competence Area: Quantitative Modeling of Complex System, university wide lecture series
5. 2019 Winter, Geophysics of the Earth, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
6. 2019 Winter, Geophysics of the Solar System, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
7. 2019 Summer, Introduction to Geophysics, Bachelor: Geophysics and Meteorology (2 hours)
8. 2019 Summer, Space Physics, Master: Physics of the Earth and Atmosphere (3 hours, 2 hours exercises)
9. 2018 Winter, Geophysics of the Solar System, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
10. 2018 Winter, Geophysical Fluid Dynamics, Atmosphere, Ocean, Ionosphere, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
11. 2018 Summer, Introduction to Geophysics, Bachelor: Geophysics and Meteorology (2 hours)
12. 2018 Summer, Space Physics, Master: Physics of the Earth and Atmosphere (3 hours, 2 hours exercises)
13. 2018 Summer, Literature Seminar, Bachelor: Geophysics and Meteorology (2 hours)
14. 2017 Winter, Geophysics of the Earth, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
15. 2017 Winter, Geophysics of the Solar System, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
16. 2017 Summer, Introduction to Geophysics, Bachelor: Geophysics and Meteorology (2 hours)

17. 2017 Summer, Space Physics, Master: Physics of the Earth and Atmosphere (3 hours, 2 hours exercises)
18. 2016 Winter, Geophysics of the Solar System, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
19. 2016 Winter, Geophysical Fluid Dynamics, Atmosphere, Ocean, Ionosphere, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
20. 2016 Summer, Introduction to Geophysics, Bachelor: Geophysics and Meteorology (2 hours)
21. 2016 Summer, Space Physics, Master: Physics of the Earth and Atmosphere (3 hours, 2 hours exercises)
22. 2016 Summer, Literature Seminar, Bachelor: Geophysics and Meteorology (2 hours)
23. 2015 Winter, Geophysics of the Solar System, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
24. 2015 Winter, Geophysics of the Earth, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
25. 2014 Winter, Geophysics of the Solar System, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
26. 2014 Winter, Geophysical Fluid Dynamics, Atmosphere, Ocean, Ionosphere, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
27. 2014 Summer, Space Physics, Master: Physics of the Earth and Atmosphere (3 hours, 2 hours exercises)
28. 2014 Summer, Introduction to Geophysics, Bachelor: Geophysics and Meteorology (2 hours)
29. 2013 Winter, Prognostic Modelling, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
30. 2013 Winter, Geophysics of the Earth, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
31. 2012 Winter, Geophysics of the Solar System, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
32. 2013 Summer, Introduction to Geophysics, Bachelor: Geophysics and Meteorology (2 hours)
33. 2013 Summer, Space Physics, Master: Physics of the Earth and Atmosphere (3 hours, 2 hours exercises)
34. 2012 Winter, Geophysical Fluid Dynamics, Atmosphere, Ocean, Ionosphere, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
35. 2012 Summer, Space Physics, Master: Physics of the Earth and Atmosphere (3 hours, 2 hours exercises)

36. 2012 Summer, Introduction to Geophysics, Bachelor: Geophysics and Meteorology (2 hours)
37. 2011 Winter, Prognostic Modelling, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
38. 2011 Winter, Geophysics of the Solar System, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
39. 2011 Winter, Geophysics of the Earth, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
40. 2010 Winter, Geophysics of the Solar System, Master Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
41. 2010 Winter, Geophysical Fluid Dynamics, Atmosphere, Ocean, Ionosphere, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
42. 2010 Summer, Space Physics, Master: Physics of the Earth and Atmosphere (3 hours, 2 hours exercises)
43. 2009 Summer, Introduction to Geophysics (2 hours)
44. 2009 Winter, Geophysics of the Solar System, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
45. 2009 Winter, Prognostic Modelling, Master: Physics of the Earth and Atmosphere (2 hours, 2 hours exercises)
46. 2009 Winter, Geophysics of the Earth, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
47. 2009 Summer, Time-Series Analysis, Diplom-Studiengang Geophysik (3 hours + hours exercises)
48. 2008 Winter, Literature Seminar, Bachelor: Geophysics and Meteorology (2 hours)
49. 2008 Winter, Geophysical Fluid Dynamics, Atmosphere, Ocean, Ionosphere, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
50. 2008 Summer, Space Physics, Master: Physics of the Earth and Atmosphere (3 hours, 2 hours exercises)
51. 2008 Summer, Introduction to Geophysics, Bachelor: Geophysics and Meteorology (2 hours)
52. 2007 Winter, Geophysics of the Earth, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)
53. Winter 2008, Introduction to Geophysics, Bachelor: Geophysics and Meteorology (2 hours)
54. 2007 Winter, Geophysics of the Earth, Bachelor: Geophysics and Meteorology, (3 hours, 2 hours exercises, 2 hours computer exercises)

55. 2007 Summer, Introduction to Geophysics, Bachelor: Geophysics and Meteorology (2 hours)
56. 2006 Winter, Geophysics 3, Time-Series Analysis, Hauptstudium, Diplom Geophysik, (3 hours + 2 hours exercises)
57. 2006 Summer, Geophysics 2, Geophysical Fluid Dynamics, Hauptstudium, Diplom Geophysik, (3 hours + 2 hours exercises)
58. 2006 Summer, Introduction to Geophysics, Diplom Geophysik, (2 hours)
59. 2005 Winter, Geophysics 1, Geophysics of the Earth, Hauptstudium, Diplom Geophysik, (3 hours + 2 hours exercises)
60. 2003, Selected Topics in Space Physics, Lecture Series, Johns Hopkins University, (2 hours)