

Curriculum Vitae

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Biographical Information

Name: Joachim Raeder
Place of Birth: Köln, Federal Republic of Germany
Marital Status: married, two children
Date of Birth: June 7, 1956
Current Affiliation: Space Science Center and Physics Department
University of New Hampshire
8 College Road
Durham, NH 03824
phone: 603-862-3412, E-mail: J.Raeder@unh.edu

Appointments

07/2021 – present Professor Emeritus, University of New Hampshire
07/2009 – 2021 Professor, University of New Hampshire
05/2010 – 07/2010 Visiting Professor, Université Paul Sabathier, Toulouse, France
07/2003 – 06/2009 Associate Professor, University of New Hampshire
07/2002 – 07/2003 Research Geophysicist II/as, IGPP/UCLA
07/2001 – 06/2002 Research Geophysicist I, IGPP/UCLA
07/1999 – 06/2001 Associate Research Geophysicist, IGPP/UCLA
08/1990 – 06/1999 Assistant Research Geophysicist, IGPP/UCLA
11/1989 – 07/1990 Research Associate (BAT IIa), Inst. für Geoph., Univ. zu Köln, FRG
01/1985 – 10/1989 Research Associate (BAT IIa/2), Inst. für Geoph., Univ. zu Köln, FRG

Education

11/1989 Ph.D. in Geophysics, Universität zu Köln, Germany
(thesis adviser: Prof. F. M. Neubauer, emeritus)
01/1985 Diploma in Geophysics, Universität zu Köln, Germany
(thesis adviser: Prof. A. Ebel, emeritus)
10/1977 – 01/1985 Universität zu Köln, Germany, major in geophysics and applied mathematics
07/1975 – 06/1977 Military service (drafted, 2./JgBtl 172, Lübeck, last rank: StUffz)
06/1975 Abitur (high school diploma), Otto-Hahn Gymnasium, Bensberg

Honors and Awards

2021 Fellow, Sigma Xi
2009 Editor citation for excellence in reviewing: *Geoph. Res. Lett.*
2008 NASA THEMIS Team Group Achievement Award
2005 ESA Cluster Outstanding Contribution Award
1998 NASA GGS Team Group Achievement Award

Teaching

PHYS 407 (General Physics I): Recitation, F2010, S2013, F2014.
PHYS 408 (General Physics II): S2005, F2005.
PHYS 408 (General Physics II): Recitation, F2003, S2004, S2008, F2008, S2012, F2015, F2017, F2018, F2020.
MATH 425S (Studio Calculus I): F2004.
PHYS 703 (Electricity & Magnetism I): S2007.
MATH/PHYS 754/854 (Introduction to Numerical Methods II): S2004, S2006.
PHYS 795/895 (Introduction to Scientific Computing): F2013, 2017.
PHYS 931 (Mathematical Physics): F2006, F2007, F2020.
PHYS 941 (Electromagnetic Theory I): S2008, S2009, S2011, S2012, S2013, S2014, S2015.
PHYS 942 (Electromagnetic Theory II), F2008, F2009, F2010, F2011, F2012, F2013, F2014, F2015, F2018, 2019.
IAM 550 (Introduction to MATLAB), F2019.

University Service

Chair, UNH Physics Department Graduate Admissions Committee, 2019 – 2021.
UNH Physics Department PTR Committee for Ben Chandran, 2018.
Chair, UNH Physics Department PTR Committee for Kai Germaschewski, 2018.
UNH IAM program, Curriculum Committee, 2017 - present
UNH RCC Faculty Advisory Committee, 2016 - present
UNH Physics Department Communications and Outreach Coordinator, 2015 - present.
Chair, UNH Physics Department Library Committee, 2015.
UNH Physics Department Web Site Committee, 2015 - present.
UNH CEPS Teaching Awards Committee, 2015 - 2017.
Chair, UNH Physics Department P&T Committee for Nathan Schwadron, 2014.
UNH CEPS Rules Committee, 2014 - 2015.
UNH Department of Physics Executive Committee, 2013 - present.
Chair, UNH Physics Department P&T Committee for Kai Germaschewski, 2013.
UNH Physics Department P&T Committee for Per Berglund, 2011.
UNH Physics Department P&T Committee for Ben Chandran, 2011.
Chair, EOS Promotion and Tenure Committee, 2011 - 2014.
Chair, UNH Physics Department honors committee, 2010 – 2014.
Chair, UNH IAM graduate committee, 2010 – 2012.
UNH Faculty search Committee for IAM position, 2010.
UNH Responsible Conduct in Research committee, 2009 – 2013.
UNH Space Science Center Executive Committee, 2009 – 2010.
UNH Physics Department Faculty Mentor for Prof. Kai Germaschewski, 2008 – 2014.
UNH Physics Department Graduate Advisor, 2008 – 2009.
Chair, UNH CEPS College Academic Planning Committee, 2005 - 2007.
UNH CEPS Academic Planning Committee, 2003 - 2004.
UNH Physics Department Graduate Curriculum Committee, 2003 - 2010.
Chair, UCLA/IGPP Researcher Committee, 2000 - 2003.
UCLA/IGPP Steering Committee, 2000 - 2003.

Professional Service

Editorships: Proceeding of the 13th International Conference on Substorms, to appear in *Earth, Planets, and Space*, 2019. Associate Editor, *Journal of Geophysical Research: Space Physics* (2014 - 2017)

Committees: Inter-agency Space Weather Advisory Group (SWAG, 2021 - 2022); Chair, NSF/GEM Steering Committee (2006 - 2009); NSF/ATM Advisory Committee on High Performance Computing in the Atmospheric Sciences (2007 - 2008); Chair, GEM GGCM Science Steering Committee (2004 - 2006); NASA Living with a Star Management Operations Working Group (2003 - 2006); NASA Living with a Star Targeted Research and Technology Steering Committee (2004 - 2005); Co-chair, GEM GGCM campaign (1999 - 2003); NASA Magnetospheric Constellation Sci. and Tech. Mission Definition Team (1999 - present); NRC "Solar and Space Physics: A Community Assessment and Strategy for the Future", panel on theory, computation, and data exploration (2001 - 2003); NASA Sun-Earth Connections Management Operations Working Group (2000 - 2002); NRC/CSSP panel on "Sudden Energy Transformations" (2000); Co-chair, GEM Substorm challenge working group (1997 - 2000); NSF Space Weather Metrics committee (1997 - 1999); Steering committee, NSF Geospace Environment Modeling (GEM) program (1996 - 1999); Co-chair, GEM GGCM spine working group (1996 - 1999)

Conference organizing committees and conference sessions: International Conference on Substorms 14, Tromsø, Norway, 2019, Cluster/THEMIS workshop, Chania, Greece, 2018, Main organizer: International Conference on Substorms 13, Portsmouth, NH (Fall 2017, with M. Lessard and J. LaBelle); Joint Cluster THEMIS Workshop (2016), Sessions SM13D, SM14B, SM41A, SM51H, SM52A, AGU Fall Meeting, (2015); Session SM14B, AGU Fall Meeting, (2014); Session SM009, AGU Fall Meeting, (2012); International Conference on Substorms 12, Lüneburg, Germany (2012); IAGA symposium DIII.04, Sopron, Hungary (2009); Joint Cluster-THEMIS workshop at UNH (September 22-26, 2008); Yosemite conference (2006, committee); Palm Spring Modeling conference, ASTRONUM (2006, committee); Storm-Substorm Relations (2006, committee); Session SM52A, AGU Fall Meeting, (2004); IAGA Symposium 3.09, Birmingham, UK, (1999); Special session SM05, AGU Fall Meeting, (1998); Theory and modeling session, ISTP workshop, NASA/GSFC, (1997); IAGA Symposium 3.12, Uppsala, Sweden, (1997)

Proposal Panel Reviews: NASA/HPCC program, NASA/LWS-TR&T program, NASA/Geospace program, NASA/SR&T program, NASA/HGI program, NSF/base program, NSF/GEM program.

Proposal Mail-in Reviews: NSF base program, NASA/SR&T program, NSF/GEM, NSF/Space Weather, NSF/ITR, NASA/SECTP, NASA/EOSDIS, NASA/LWS, AFOSR, DoE/OBES, San Diego Supercomputer Center, Air Force Office of Sponsored Research (AFOSR), Canadian Space Agency, Czech Science Foundation, Swedish National Space Board, Deutsche Forschungsgemeinschaft (DFG, Germany).

Publication Reviews: Nature, Nature Communications, Journal of Geophysical Research, Geophysical Research Letters, Journal of Computational Physics, Journal of Geomagnetism and Geoelectricity, Advances in Space Research, Planetary and Space Science, Journal of Solar-Terrestrial Physics, Annales Geophysicae, Journal of Plasma Physics, Astrophysics and Space Science, Earth, Oceans, and Space, Space Science Reviews, Space Weather, Computer Physics Communications, AGU monographs.

Professional Memberships

Sigma Xi
American Geophysical Union
European Geophysical Union

Post-docs and researchers

Dr. Beket Tulegenov, (UNH, 2019 - 2021)
Dr. Banafsheh Ferdousi (UNH, 2018 - present)
Dr. William Douglas (Doug) Cramer (UNH, 2013 - present)
Dr. Emmanuel Chanè (UNH, 2012 - 2013, now at K.U. Leuven, Belgium)
Dr. Matthew Gilson (UNH, 2012 - 2013, now at Google Inc.)
Dr. Yasong Ge (UNH, 2009 - 2014, now at Chinese Academy of Sciences, Beijing)
Dr. Wenhui Li (UNH, 2007 - 2013, Professor, GuangXi University, Naning, China)
Dr. Alexander Vapirev (UNH, 2007 - 2011, now at KU Leuven, Belgium)
Dr. Emil Lawrence (Larry) Kepko (UNH, 2007 - 2009, now staff scientist at NASA/GSFC)
Dr. Edisher (Eddie) Kaghashvili (UNH, 2006 - 2008, now at AES, Inc.)
Dr. John Dorelli (UNH, 2003 - 2006, advanced to Asst. Res. Prof., now staff scientist at GSFC)
Dr. Douglas Larson (UNH, 2003 - 2011)
Dr. James Weygand (UCLA, 2001 - 2003, Research Scientist at UCLA)

Graduate Students Advised and Supported

Neha Srivastava (UNH, 2020 -)
Emily McDougall (UNH, 2019 -)
James (Andy) Edwards (UNH, 2019 -)
Derick Arel (UNH, 2015 - 2018, M.S., now at Safran Inc.)
Joseph Jensen (UNH, 2013 - 2018, now at Northrop-Grumman/ATK)
Banafsheh (Bashi) Ferdousi Shahandashti (UNH, 2013 - 2017, now reserch faculty at UNH)
Denny Oliviera (UNH, 2012 - 2015, now at NASA/GSFC)
Shiva Kavosi (UNH, 2011 - 2015, now at Embry Riddle)
Xiaoyan Chong (UNH, 2013, back to TA for M.S.)
Yanhong Dai (UNH, 2009 - 2010, transferred to business school)
Matthew Gilson (UNH, 2008 - 2011, now at Google Inc.)
Hyun-Ju Kim-Connor (UNH, 2006 - 2012, now Assoc. Prof. at UAF)
Burlen Loring (UNH, Math M.S., 2006 - 2008, now at LBL)
Andrew Foulks (UNH CS graduate student, 2005)
Wenhui Li (UNH, 2003 - 2007, now Professor, GuangXi University, Naning, China)
Yongli Wang (UCLA, 1998 - 2003, now at NASA/GSFC)

Undergraduate Students Advised

G. Pitts (APL), G. Riley, M. Tobin, J. French, A. Kumar, R. Vega, J. Berg, B. Larsen E. Callahan, T. Glines, B. Barry, M. LeBlanc, T. Fogal, T. Olsen, B. Loring, N. Myiake

Research Funding

Details are provided on request.

Scientific Productivity

Refereed Publications:	157
Citations (Google):	6042
h-index (Google):	47 (m=1.47)
i10-index (Google):	118 (publications with more than 10 citations)

Publications in refereed journals

- [R1] Neubauer, F. M., K.-H. Glassmeier, M. Pohl, J. Raeder, M. H. Acuna, L. F. Burlaga, N. F. Ness, G. Musmann, F. Mariani, M. K. Wallis, E. Ungstrup and H. U. Schmidt, First results from the Giotto magnetometer experiment at comet Halley, *Nature*, **321**, 352-355, 1986.
- [R2] Raeder, J., F. M. Neubauer, N. F. Ness and L. F. Burlaga, Macroscopic perturbations of the IMF by P/Halley as seen by the Giotto magnetometer, *Astron. Astroph.*, **187**, 61-64, 1987.
- [R3] Mazelle, C., H. Reme, J. A. Sauvaud, C. d'Uston, C. W. Carlson, K. A. Anderson, D. W. Curtis, R. P. Lin, A. Korth, D. A. Mendis, F. M. Neubauer, K.-H. Glassmeier, and J. Raeder, Analysis of suprathermal electron properties at the magnetic pile-up boundary of comet P/Halley, *Geophys. Res. Lett.*, **16**, 1035-1038, 1989.
- [R4] Motschmann, U., and J. Raeder, A simulation study of multiple ion wave generation downstream of a low Mach number quasiperpendicular shock, *Geophys. Res. Lett.*, **19**, 1619-1622, 1992.
- [R5] Walker, R. J., T. Ogino, J. Raeder, and M. Ashour-Abdalla, A global magnetohydrodynamic simulation of the magnetosphere when the interplanetary magnetic field is southward: The onset of magnetotail reconnection, *J. Geophys. Res.*, **98**, 17235-17249, 1993.
- [R6] Ashour-Abdalla, M., J. Berchem, F. V. Coroniti, J. Raeder, D. Schriver, and R. J. Walker, Mission-Oriented theory for ISTP, *Space Sci. Rev.*, **71**, 647-669, 1995.
- [R7] Raeder, J., R. J. Walker, and M. Ashour-Abdalla, The structure of the distant geomagnetic tail during long periods of northward IMF, *Geophys. Res. Lett.*, **22**, 349-352, 1995.
- [R8] Pulkkinen, T. I., D. N. Baker, R. J. Walker, J. Raeder, and M. Ashour-Abdalla, Comparison of empirical magnetic field models and global MHD simulations, *Geophys. Res. Lett.*, **22**, 675-678, 1995.
- [R9] Berchem, J., J. Raeder, and M. Ashour-Abdalla, Magnetic flux ropes at the high - latitude magnetopause, *Geophys. Res. Lett.*, **22**, 1189-1192, 1995.
- [R10] Frank, L. A., M. Ashour-Abdalla, J. Berchem, J. Raeder, W. R. Paterson, S. Kokubun, T. Yamamoto, R. P. Lepping, F. V. Coroniti, D. H. Fairfield, and K. L. Ackerson, Observations of plasmas and magnetic fields in Earth's distant magnetotail: Comparison with a global MHD model, *J. Geophys. Res.*, **100**, 19177-19190, 1995.
- [R11] Raeder, J., J. Berchem, M. Ashour-Abdalla, L. A. Frank, W. R. Paterson, K. L. Ackerson, S. Kokubun, T. Yamamoto, and J. A. Slavin, Boundary layer formation in the magnetotail: Geotail observations and comparisons with a global MHD model, *Geophys. Res. Lett.*, **24**, 951-954, 1997.
- [R12] Ashour-Abdalla, M., M. El-Alaoui, V. Peromian, J. Raeder, R. J. Walker, R. L. Richard, L. M. Zelenyi, L. A. Frank, W. R. Paterson, J. M. Bosqued, R. P. Lepping, K. Ogilvie, S. Kokubun, and T. Yamamoto, Ion sources and acceleration mechanisms inferred from local distribution functions, *Geophys. Res. Lett.*, **24**, 955-959, 1997.
- [R13] Berchem, J., J. Raeder, M. Ashour-Abdalla, L. A. Frank, W. R. Paterson, K. L. Ackerson, S. Kokubun, Y. Yamamoto, and R. P. Lepping, The distant tail at 200 R_E : Comparison between Geotail observations and the results from a global magnetohydrodynamic simulation, *J. Geophys. Res.*, **103**, 9121, 1998.
- [R14] Raeder, J., J. Berchem, and M. Ashour-Abdalla, The Geospace Environment Modeling Grand Challenge: Results from a Global Geospace Circulation Model, *J. Geophys. Res.*, **103**, 14787, 1998.
- [R15] Ashour-Abdalla, M., M. El-Alaoui, V. Peromian, R. J. Walker, J. Raeder, L. A. Frank, and W. R. Paterson Source distributions of substorm ions observed in the near-Earth magnetotail, *Geophys. Res. Lett.*, **26**, 955-958, 1999.
- [R16] Raeder, J., Modeling the magnetosphere for northward interplanetary magnetic field: Effects of electrical resistivity, *J. Geophys. Res.*, **104**, 17357, 1999.

- [R17] **Curtis, S., J. Raeder, J. Berchem, C. Goodrich, M. Wiltberger, R. Greenwald, K. Baker, and R. Roble**, A global view of acceleration processes in solar-terrestrial coupling as provided by the ISTP theory and ground-based experiments, *Phys. Chem. Earth*, **24**, 239, 1999.
- [R18] **Ergun, R. E., D. E. Larson, T. Phan, D. Taylor, S. Bale, C. W. Carlson, I. Roth, V. Angelopoulos, J. Raeder, T. Bell, U. S. Inan, J.-L. Bougeret, and R. Manning**, Feasibility of a multisatellite investigation of the Earth's magnetosphere with radio tomography, *J. Geophys. Res.*, **105**, 361, 2000.
- [R19] **Ashour-Abdalla, M., M. El-Alaoui, V. Peromian, R. J. Walker, J. Raeder, L. A. Frank, and W. R. Paterson**, The origin of the near-Earth plasma population during a substorm on November 24, 1996, *J. Geophys. Res.*, **105**, 2589, 2000.
- [R20] **Raeder, J.**, Reply, *J. Geophys. Res.*, **105**, 13149, 2000.
- [R21] **Raeder, J., O. Vaisberg, V. Smirnov, and L. Avakov**, Reconnection driven lobe convection: Interball tail probe observations and global simulations, *J. Atm. Solar-Terr. Phys.*, **62**, 833, 2000.
- [R22] **Russell, C. T., Y. Wang, and J. Raeder, R. L. Tokar, C. W. Smith, K. W. Ogilvie, A. J. Lazarus, R. P. Lepping, A. Szabo, H. Kawano, T. Mukai, S. Savin, Y. I. Yermolaev, X.-Y. Zhou, and B. T. Tsurutani**, The interplanetary shock of September 24, 1998: Arrival at Earth, *J. Geophys. Res.*, **105**, 25143, 2000.
- [R23] **Raeder, J. and N. Maynard**, Foreword, *J. Geophys. Res.*, **106**, 345, 2001.
- [R24] **Raeder, J., R. L. McPherron, L. A. Frank, W. R. Paterson, J. B. Sigwarth, G. Lu, H. J. Singer, S. Kokubun, T. Mukai, and J. A. Slavin**, Global simulation of the geospace environment modeling substorm challenge event, *J. Geophys. Res.*, **106**, 381, 2001.
- [R25] **Strangeway, R. J., and J. Raeder**, On the transition from collisionless to collisional magnetohydrodynamics, *J. Geophys. Res.*, **106**, 1955, 2001.
- [R26] **Chi, P., C. T. Russell, J. Raeder, E. Zesta, K. Yumoto, H. Kawano, K. Kitamura, S. M. Petrinec, V. Angelopoulos, G. Le and M. B. Moldwin**, Propagation of the preliminary reverse impulse of sudden commencements to low latitudes, *J. Geophys. Res.*, **106**, 18857, 2001.
- [R27] **Le, G., J. Raeder, C. T. Russell, G. Lu, S. M. Petrinec, and F. S. Mozer**, Polar cusp and vicinity under strongly northward IMF on April 11, 1997: Observations and MHD simulations, *J. Geophys. Res.*, **106**, 21083, 2001.
- [R28] **Wang, Y. L., C. T. Russell, and J. Raeder**, The Io mass-loading disk: Model calculations, *J. Geophys. Res.*, **106**, 26243, 2001.
- [R29] **Russell, C. T., X. Blanco-Cano, R. J. Strangeway, Y. L. Wang, and J. Raeder**, A mechanism for the production of a disk-shaped neutral source cloud at Io, *Adv. Space Res.*, **28**, 1475, 2001.
- [R30] **Raeder, J., Y. L. Wang, T. J. Fuller-Rowell, and H. J. Singer**, Global simulation of space weather effects of the Bastille Day storm, *Sol. Phys.*, **204**, 325, 2001.
- [R31] **Chi, P., C. T. Russell, J. Raeder, E. Zesta, K. Yumoto, H. Kawano, K. Kitamura, S. M. Petrinec, V. Angelopoulos, G. Le and M. B. Moldwin**, Reply, *J. Geophys. Res.*, **107**, 1474, doi:10.1029/2002JA009369, 2002.
- [R32] **Wang, Y. L., J. Raeder, C. T. Russell, T. D. Phan, and M. Manapat**, Plasma depletion layer: Event studies with a global model, *J. Geophys. Res.*, **108**, 1010, doi:10.1029/2002JA009281, 2003.
- [R33] **Russell, C. T., Y. L. Wang, and J. Raeder**, Possible dipole tilt dependence of dayside magnetopause reconnection, *Geophys. Res. Lett.*, **30**, 1937, doi:10.1029/2003GL017725, 2003.
- [R34] **Ohtani, S., and J. Raeder**, Tail current surge: New insights from a global MHD simulation, and comparison with tail observations, *J. Geophys. Res.*, **109**, A01207, doi:10.1029/2002JA009750, 2004.
- [R35] **Wang, Y. L., J. Raeder, and C. T. Russell**, Plasma depletion layer: Structure and forces, *Ann. Geophys.*, **22**, 1001, 2004.
- [R36] **Siscoe, G., J. Raeder, and A. J. Ridley**, Transpolar potential saturation models compared, *J. Geophys. Res.*, **109**, A9, doi:10.1029/2003JA010318, 2004.
- [R37] **Birn, J., J. Raeder, Y. L. Wang, R. A. Wolf, and M. Hesse**, On the propagation of bubbles in the geomagnetic tail, *Ann. Geophys.*, **22**, 1773, 2004.
- [R38] **Dorelli, J. C., M. Hesse, M. M. Kuznetsova, L. Rastätter, and J. Raeder**, A new look at driven magnetic reconnection at the terrestrial subsolar magnetopause, *J. Geophys. Res.*, **109**, A12216, doi: 10.1029/2004JA010458, 2004.
- [R39] **Wang, Y. L., J. Raeder, C. T. Russell**, Plasma depletion layer: The role of the slow mode waves, *Ann. Geophys.*, **22**, 4259, 2004.
- [R40] **Wang, Y. L., J. Raeder, C. T. Russell**, Plasma depletion layer: Its dependence on solar wind conditions and the Earth dipole tilt, *Ann. Geophys.*, **22**, 4273, 2004.
- [R41] **Øieroset, M., J. Raeder, T. D. Phan, S. Wing, J. P. McFadden, W. Li, M. Fujimoto, H. Reme, and A. Balogh**, Global cooling and densification of the plasma sheet during an extended period of purely northward IMF on October 22-24, 2003, *Geophys. Res. Lett.*, **32**, L12S07 doi: 10.1029/2004GL021523, 2005.
- [R42] **Li, W., J. Raeder, J. Dorelli, M. Øieroset, and T. D. Phan**, Plasma sheet formation during long period of northward IMF, *Geophys. Res. Lett.*, **32**, L12S08 doi: 10.1029/2004GL021524, 2005.
- [R43] **Vennerstrom, S., T. Moretto, L. Rastätter, and J. Raeder**, Field-aligned currents during northward IMF: Morphology and causes, *J. Geophys. Res.*, **110**, A06205 doi: 10.1029/2004JA010802, 2005.

- [R44] **Rastätter, M. Hesse, M. Kuznetsova, J. B. Sigwarth, J. Raeder, T. I. Gombosi**, Polar cap size during July 14–16 2000 (Bastille Day) solar CME event. MHD modeling and satellite imager observations. *J. Geophys. Res.*, **110**, A07212 doi: 10.1029/2004JA010672, 2005.
- [R45] **Weygand, J. M., and J. Raeder**, Cosmic ray cutoff predictions using magnetic field from global magnetosphere MHD simulations, *Ann. Geophys.*, **23**, 1441, doi: 1432-0576/ag/2005-23-1441, 2005.
- [R46] **Mühlbachler, S., C. J. Farrugia, J. Raeder, H. K. Biernat, and R. B. Torbert**, A statistical investigation of dayside magnetosphere erosion showing saturation of response, *J. Geophys. Res.*, **110**, A11207, doi: 10.1029/2005JA011177, 2005.
- [R47] **Raeder, J., and G. Lu**, Polar cap potential saturation during large geomagnetic storms, *Adv. Space Res.*, **36**, 1804, 2005.
- [R48] **Wang, Y. L., R. C. Elphic, B. Lavraud, M. G. Taylor, M. F. Thomsen, J. Birn, J. Raeder, C. T. Russell, H. Kawano, Q.-G. Zong, H. Zhang, X. X. Zhang, and R. H. Friedel**, Initial results of high-latitude magnetopause and low-latitude flux transfer event statistics from three years of Cluster observations, *J. Geophys. Res.*, **110**, A11221, doi: 10.1029/2005JA011150, 2005.
- [R49] **Raeder, J.**, Flux Transfer Events: 1. Generation mechanism for strong southward IMF, *Ann. Geophys.*, **24**, 381–392, 2006.
- [R50] **Wang, Y. L., R. C. Elphic, B. Lavraud, M. G. Taylor, J. Birn, C. T. Russell, J. Raeder, H. Kawano, X. X. Zhang**, Dependence of flux transfer events on solar wind conditions from 3 years of Cluster observations, *J. Geophys. Res.*, **111**, A04224, doi: 10.1029/2005JA011342, 2006.
- [R51] **Moretto, T., S. Vennerstrom, L. Rastätter, and J. Raeder**, Using global magnetospheric models for simulation and interpretation of Swarm external field measurements, *Earth Planets and Space*, **58/4**, 439–449, 2006.
- [R52] **Vennerstrom, S., T. Moretto, L. Rastätter, and J. Raeder**, Modeling and analysis of solar wind generated contributions to the near-Earth magnetic field, *Earth Planets and Space*, **58/4**, 451–461, 2006.
- [R53] **Kaghashvili, E. K., J. Raeder, G. M. Webb, and G. P. Zank**, Propagation of Alfvén waves in shear flows: Nature of driven longitudinal velocity and density fluctuations, *Physics of Plasmas*, **13**, 122107, 2006.
- [R54] **Dorelli, J. C., A. Bhattacharjee, and J. Raeder**, Separator reconnection at Earth’s dayside magnetopause under northward IMF conditions, *J. Geophys. Res.*, **112**, A02202, doi: 10.1029/2006JA011877, 2007.
- [R55] **Oieroset, M., T. D. Phan, D. H. Fairfield, J. Raeder, J. T. Gosling, J. F. Drake, and R. P. Lin**, The existence and properties of the distant geomagnetic tail during 32 hours of strongly northward interplanetary magnetic field, *J. Geophys. Res.*, **113**, A04206, doi: 10.1029/2007JA012604, 2008.
- [R56] **Li, W., J. Raeder, M. F. Thomsen, and B. Lavraud**, Solar wind plasma entry into the magnetosphere under northward IMF conditions, of strongly northward interplanetary magnetic field, *J. Geophys. Res.*, **113**, A04204, doi: 10.1029/2007JA012679, 2008.
- [R57] **Oieroset, M., T. D. Phan, V. Angelopoulos, J. P. Eastwood, J. McFadden, D. Larson, C. W. Carlson, K.-H. Glassmeier, M. Fujimoto and J. Raeder**, THEMIS multi-spacecraft observations of magnetosheath plasma penetration deep into the dayside low-latitude magnetosphere for northward and strong By IMF, *Geophys. Res. Lett.*, **35**, L17S11, doi:10.1029/2008GL033661, 2008.
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- [I4] **Raeder, J.**, Global MHD simulations: Structure and dynamics of the distant tail, *GEM Workshop*, Snowmass, Colorado, July 1993.
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- [I6] **Raeder, J.**, Global MHD simulations: Predictive capabilities for space weather forecasting, *colloquium presentation*, NOAA Space Environment Laboratory, Boulder, Colorado, June 1994.
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- [I10] **Berchem, J., J. Raeder, and M. Ashour-Abdalla**, Predicting the large scale motion of the magnetospheric boundary: Global MHD simulation results, *AGU Spring Meeting*, Baltimore (EOS, vol. 76, no. 16), 1995.
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- [I16] **Raeder, J.**, Global MHD simulations: What does Earth's magnetosphere really look like?, *IGPP/UCLA Seminar Series*, February 1996.
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- [I18] **Raeder, J.**, Mass, momentum, and energy flow from the solar wind into Earth's magnetosphere, ionosphere, and thermosphere: Global MHD simulations, *Seminar presentation, UCLA Department of Atmospheric Sciences*, Los Angeles, California, May 1996.
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- [I62] **Raeder, J.**, Global modeling of magnetospheric flux transfer events, *Colloquium presentation*, NCAR/HAO, November 2002.
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- [I64] **Russell, C. T., Y. L. Wang, J. Raeder**, Possible dipole tilt angle dependence of dayside magnetopause reconnection, *2003 Joint EGU/AGU Meeting*, Nice, France, 2003.
- [I65] **Fuller-Rowell, T., M. Codrescu, and J. Raeder**, Future modeling challenges, *2003 Joint EGU/AGU Meeting*, Nice, France, 2003.
- [I66] **Raeder, J.**, Small scale variability in the high-latitude ionosphere from global simulations, *2003 Joint EGU/AGU Meeting*, Nice, France, 2003.
- [I67] **Raeder, J.**, Global simulations of flux transfer events: Generation mechanism and spacecraft signatures, *Colloquium presentation*, Dartmouth College, December 2003.
- [I68] **Dorelli, J. C., M. Hesse, J. Raeder, M. Kuznetsova, L. Rastätter**, A new look at driven magnetic reconnection at the terrestrial subsolar magnetopause, *AGU Fall Meeting*, San Francisco, CA, December 2003.
- [I69] **Raeder, J.**, Including the ionosphere-thermosphere system into a GGCM, *Colloquium presentation*, Boston University, January 2004.
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- [I77] **Raeder, J.**, ULF wave power flux from the solar wind to the ionosphere, *2005 IAGA Assembly*, Toulouse, France, July 2005.
- [I78] **Raeder, J.**, Large-scale fields, flows, and plasma morphology (reporter review), *2005 IAGA Assembly*, Toulouse, France, July 2005.
- [I79] **Dorelli, J. C., J. Raeder, and A. Bhattacharjee**, Flux pileup magnetic reconnection at Earth's dayside magnetopause, *2005 IAGA Assembly*, Toulouse, France, July 2005.
- [I80] **Dorelli, J. C., A. Bhattacharjee, and J. Raeder**, Separator reconnection at Earth's dayside magnetopause under northward IMF conditions, *2005 IAGA Assembly*, Toulouse, France, July 2005.
- [I81] **Raeder, J., W. Li, J. Dorelli, M. Øieroset, T. Phan**, Cold dense plasma sheet formation during northward IMF, *ESA Cluster and Doublestar Symposium*, Noordwijk, The Netherlands, September 2005.
- [I82] **Raeder, J.**, Space Weather, *Colloquium presentation*, Union College, Schenectady, NY, October 2005.
- [I83] **Raeder, J.**, Flux Transfer Events: Flux Ropes at Earth's Magnetopause, *47th APS Division of Plasma Physics Meeting*, Denver, CO, October 2005.
- [I84] **Raeder, J., and D. Larson**, Prospects and Challenges of Magnetospheric Data Assimilation, *AGU Fall Meeting*, San Francisco, California, December 2005.
- [I85] **Dorelli, J., J. Raeder, and A. Bhattacharjee**, Global Modeling of Magnetic Reconnection in Earth's Magnetosphere, *Numerical Modeling of Space Plasma Flows*, Palm Springs, California, March 2006.
- [I86] **Raeder, J.**, Physical, Numerical, and Computational Challenges Modeling the Geospace Environment (keynote), *Numerical Modeling of Space Plasma Flows*, Palm Springs, California, March 2006.
- [I87] **Raeder, J.**, Parallel electric fields and time-dependent reconnection at Earth's magnetopause, *Boston University Colloquium*, Boston, MA, October 2006.
- [I88] **Raeder, J.**, Progress and Challenges in Modeling the Geospace Environment, *CAWSES International Workshop on Space Weather Modeling*, Yokohama, Japan, November 2006.
- [I89] **Raeder, J., and J. Dorelli**, Global Simulation of Cluster - Doublestar-1 Flux Transfer Events, *AGU Fall Meeting*, San Francisco, California, December 2006.
- [I90] **Kaghashvili, E. K. and J. Raeder**, Interaction of solar ULF waves with the magnetosphere, *6th Annual International Astrophysics Conference on Turbulence and Nonlinear Processes in Astrophysical Plasmas*, Oahu, HI, March 2007.
- [I91] **Raeder, J.**, OpenGGCM development and applications, *Space Weather Week*, NOAA/SEC, Boulder, Colorado, April 2007.
- [I92] **Raeder, J., B. Loring, D. Larson, J. Dorelli, E. Kaghashvili, and K. Germaschewski**, Small-scale physics from large-scale simulations, *ASTRONUM 2007*, Paris, France, June 2007.
- [I93] **Raeder, J., D. Larson, H. Korth, and B. Anderson**, OpenGGCM comparisons with ionospheric data, *IUGG 2007 Assembly*, Perugia, Italy, July 2007.
- [I94] **Raeder, J.**, Large-scale field, flow, and plasma (reporter review), *IUGG 2007 Assembly*, Perugia, Italy, July 2007.
- [I95] **Raeder, J., L. Kepko, W. Li, and D. Larson**, Factors controlling global substorm dynamics, *Ninth International Conference on Substorms*, Schloss Seggau, Austria, May 2008.
- [I96] **Raeder, J.**, Controlling factors for FTE generation, *2008 Huntsville Workshop: The Physical Processes for Energy and Plasma Transport Across Magnetic Boundaries*, Huntsville, AL, October 2008.
- [I97] **Raeder, J.**, OpenGGCM: Latest Science and Space Weather Forecasting, *Colloquium presentation*, Rice University, Houston, TX, February 2009.
- [I98] **Raeder, J.**, Modeling magnetospheric impact on the ionosphere: Status and challenges for the upcoming solar cycle, *2009 Space Weather Workshop*, Boulder, CO, April 2009.
- [I99] **Raeder, J., D. Larson, W. Li, A. Vapirev, T. Fuller-Rowell, N. Maruyama, M. Fok, A. Gloer, F. Toffoletto, B. Hu, S. Sazykin, A. Richmond, and A. Maute**, Magnetospheric Space Weather Forecasting: Status and Challenges for the Upcoming Solar Cycle, *AGU Spring Meeting*, Toronto, Canada, May 2009.
- [I100] **Lu, G., Q. Zong, M. Oieroset, J. Raeder, D. J. Larson, Y. Deng**, Dual Reversed Convection and Magnetospheric Reconfiguration Under Strongly Northward IMF Conditions, *AGU Fall Meeting*, San Francisco, California, December 2009.

- [I101] **Raeder, J., G. Siscoe, and Y. Ge**, Tail force imbalance preceding substorm onset, *Tenth International Conference on Substorms, ICS-10*, San Luis Obispo, California, March 2010.
- [I102] **Raeder**, Das Loch im Weltraum, *Festvortrag zu Ehren von Prof. F. M. Neubauer*, Universität zu Köln, Germany, April 2010. (given via Skype)
- [I103] **Raeder**, Modeling Earth's Magnetosphere for Science and Space Weather, *Colloquium presentation*, Geo Forschungs Zentrum (GFZ) Potsdam, Germany, April 2010.
- [I104] **Raeder**, Modeling Earth's Magnetosphere for Science and Space Weather, *Colloquium presentation*, Technical University Braunschweig, Braunschweig, Germany, April 2010.
- [I105] **Raeder**, Modeling Earth's Magnetosphere for Science and Space Weather, *Colloquium presentation*, Centre d'Etude Spatiale des Rayonnements, Toulouse, France, May 2010.
- [I106] **Raeder, J., P. Zhu, Y. Ge, and G. L. Siscoe**, OpenGGCM Simulation of Ballooning and Axial MHD Mode at Substorm Onset, *AGU Fall Meeting*, San Francisco, California, December 2010.
- [I107] **Germaschewski, K., J. Raeder, and H. Ruhl**, Porting fluid and kinetic plasma models for space plasma physics to heterogeneous architectures: Benefits and Challenges, *AGU Fall Meeting*, San Francisco, California, December 2010.
- [I108] **Raeder, J.**, Space weather, aurora, and why does it light up when it lights up? *Colloquium presentation*, ESA/ESTEC, Noordwijk, The Netherlands, April 2011.
- [I109] **Raeder, J.**, Open Geospace General Circulation Model 4.0, *2011 Space Weather Workshop*, Boulder, CO, April 2011.
- [I110] **Raeder, J.**, Multi-scale Physics in the Magnetosphere, *6TH international Conference on Numerical Modeling of Space Plasma Flows – ASTRONUM - 2011*, Valencia, Spain, June 2011.
- [I111] **Raeder, J.**, Data Assimilation in the Magnetosphere, *US-UK Space Weather Workshop*, Boulder, CO, October 2011.
- [I112] **Yang, J., F. Toffoletto, R. A. Wolf, S. Sazykin, B. Hu, J. Raeder**, Investigating the role of the entropy parameter in plasma sheet dynamics, *AGU Fall Meeting*, San Francisco, California, December 2011.
- [I113] **Raeder, J., K. Germaschewski, M. Gilson, T. Fuller-Rowell, N. Maruyama, M.-C. Fok, A. Gloer, F. Toffoletto, B. Hu, S. Sazykin and A. Chan, A. Richmond and A. Maute**, UNH-CCMC Collaboration, *6th CCMC Workshop*, Key Largo, FL, January 2012.
- [I114] **Germaschewski, K., J. Raeder and M. Gilson**, Computational Aspects of OpenGGCM, *6th CCMC Workshop*, Key Largo, FL, January 2012.
- [I115] **Raeder, J.**, Drivers of Earth's Radiation Belts, *11th Annual International Astrophysics Conference: Space Weather & The Space Radiation Environment*, Palm Springs, CA, March 2012.
- [I116] **Raeder, J., W. Li, M. Gilson, and Y. Ge**, OpenGGCM Simulations of Global Entry, Heating, and Transport of Plasma from the Solar Wind to the Ring Current, *Asia Oceania Geosciences Society - American Geophysical Union Joint Assembly*, Singapore, August 2012.
- [I117] **Karimabadi, H., V. Roytershteyn, W. Daughton, C. Mouikis, L. Kistler, Y. Liu, and J. Raeder**, Effects of Oxygen Ions on Reconnection in the Magnetotail: Kinetic Simulations and Observations, *Asia Oceania Geosciences Society - American Geophysical Union Joint Assembly*, Singapore, August 2012.
- [I118] **Ge, Y., J. Raeder, and M. Gilson**, Ion dynamics associated with dipolarization fronts and auroral effects, *11th International Conference on Substorms, ICS-11*, Lüneburg, Germany, September 2012.
- [I119] **Raeder J., K. Germaschewski, M. Gilson, W. Li, T. Fuller-Rowell, N. Maryama, M.-C. Fok, Toffoletto, B. Hu, and S. Sazykin**, Coupled Magnetosphere - Ionosphere -Thermosphere - Ring Current Modeling with the OpenGGCM, *Ninth European Space Weather Week*, Brussels, Belgium, November 2012.
- [I120] **Raeder J.**, Modeling Earth's Magnetosphere for Science and Space Weather, *Colloquium presentation*, Katholieke Universiteit Leuven, Belgium, November 2012.
- [I121] **Raeder, J.**, Modeling Earth's Magnetosphere: From Science to Space Weather, *Colloquium presentation*, Department of Physical Sciences, Embry-Riddle Aeronautical University, Daytona Beach, Florida, November 2012.
- [I122] **Gilson, M., J. Raeder, F. Toffoletto, M.-C. H. Fok, W. Li, and B. Hu**, OpenGGCM simulations of different types of storms with a coupled inner magnetosphere model, *AGU Fall Meeting*, San Francisco, California, 2012.
- [I123] **Knipp, D., F. Rich, L. Kilcommons, W. Li, and J. Raeder**, Thermospheric Geo-effectiveness of Solar Wind Disturbances Monitored with Low Earth Orbit Measurements of Magnetic Perturbations and Poynting Flux, *AGU Fall Meeting*, San Francisco, California, 2012.
- [I124] **Raeder, J., W. Li, M. Gilson, and S. Kavosi**, Predictions of Plasma Entry and its Ionospheric Signatures from Global Simulations, *AGU Fall Meeting*, San Francisco, California, 2012.
- [I125] **Raeder, J.**, Global magnetosphere-ionosphere-thermosphere simulations - from science to space weather, *2013 EGU Meeting*, Vienna, Austria, April 2013.
- [I126] **Raeder, J., K. Germaschewski, W. Li, M. Gilson, S. Kavosi, and D. Knipp**, Mechanisms of Mass, Momentum, and Energy Transfer Across Earth's Magnetopause, *12th Annual International Astrophysics Conference*, Myrtle Beach, South Carolina, April 2013.

- [I127] **Germaschewski, K., N. Ahmadi, and J. Raeder**, Particle-in-cell simulations of mirror mode structures in the magnetosphere, *ASTRONUM 2013: 8th International Conference on Numerical Modeling of Space Plasma Flows*, Biarritz, France, July 2013.
- [I128] **Raeder, J.**, Plasma Entropy in the Magnetosphere, *ASTRONUM 2013: 8th International Conference on Numerical Modeling of Space Plasma Flows*, Biarritz, France, July 2013.
- [I129] **Raeder, J.**, Using global simulations of Earth's magnetosphere to model x-ray imaging, *European Planetary Science Congress*, London, UK, September 2013.
- [I130] **Raeder, J., S. Kavosi, and K. Germaschewski**, Kelvin-Helmholtz waves at Earth's magnetopause triggered by Flux Transfer Events, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [I131] **Chané, E., J. Raeder, J. Saur, F. M. Neubauer, and S. Poedts**, Global Simulations of the Magnetosphere under Sub-Alfvénic Solar Wind Conditions, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [I132] **Raeder, J.**, Energy deposition into the ionosphere and thermosphere during northward IMF, *AFOSR Program Review of Space Science*, Kirtland AFB, NM, January 2014.
- [I133] **Raeder, J.**, Flux Transfer Events at Earth's Magnetopause Triggering Kelvin-Helmholtz Waves, *Colloquium presentation*, Turabo University, Puerto Rico, February 2014.
- [I134] **Raeder, J.**, Flux Transfer Events and Kelvin-Helmholtz Waves at Earth's Magnetopause, *Colloquium presentation*, Space Science Institute, Boulder, Colorado, February 2014.
- [I135] **Raeder, J.**, OpenGGCM, *CCMC Workshop*, Annapolis, Maryland, April 2014.
- [I136] **Raeder, J.**, Prospects for Data Assimilation in Magnetosphere Models (tutorial), *GEM Summer Workshop*, Portsmouth, VA, June, 2014.
- [I137] **Raeder, J.**, Magnetic Reconnection at the Dayside and Dawnside of Cusp When IMF Bz is Near Zero: Causes and Consequences, *Asia Oceania Geosciences Society*, Sapporo, Japan, July 2014.
- [I138] **Shi, Q., A. Tian, Q.-G. Zhong, S. Fu, M. Hartinger, V. Angelopoulos, X. Shen, H. Zhao, Z. Pu, J. Weygand, J. Raeder, X. Zhou, H. Zhang, and M. Dunlop**, Solar wind dynamic pressure pulse - driven magnetospheric vortices and waves, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [I139] **Raeder, J., W. D. Cramer, and J. Jensen**, OpenGGCM estimates of magnetic perturbations at SWARM from magnetospheric, field-aligned, and ionospheric currents for different levels of geomagnetic activity, *ISSI Workshop on Earths Magnetic Field: Understanding Sources from the Earths Interior and its Environment*, Bern, Switzerland, May 2015.
- [I140] **Raeder, J., S. Kavosi, and K. Germaschewski**, Kelvin-Helmholtz Waves Rattling Earth's Magnetosphere, *ASTRONUM 2015: 10th International Conference on Numerical Modeling of Space Plasma Flows*, Avignon, France, June 2015.
- [I141] **Raeder, J.**, Generation mechanism and properties of dipolarization Fronts in OpenGGCM simulations, *Workshop on Tail Dynamics*, JHU/APL, Baltimore, MD, September 2015.
- [I142] **Raeder, J., B. Ferdousi, J. Jensen, and D. Cramer**, Role of Ionosphere in Substorm Dynamics, *Chapman Conference on Magnetosphere Dynamics*, Fairbanks, AK, September 2015.
- [I143] **Fuller-Rowell, T., M. Fedrizzi, M. Codrescu, N. Maruyama, and J. Raeder**, How Might the Thermosphere and Ionosphere React to an Extreme Space Weather Event?, *SM32A-03, AGU Fall Meeting*, San Francisco, California, December 2015.
- [I144] **Germaschewski, K., L. Wang, K. Maynard, J. Raeder, and A. Bhattacharjee**, Integration of Extended MHD and Kinetic Effects in Global Magnetosphere Models, *SH11A-2377, AGU Fall Meeting*, San Francisco, California, December 2015.
- [I145] **Raeder, J., W. D. Cramer, J. Jensen, F. Toffoletto, S. Sazykin, and H. Vo**, OpenGGCM-RCM modeling of SAPS events, *SA23E-01, AGU Fall Meeting*, San Francisco, California, December 2015.
- [I146] **Le, G., H. Lühr, B. Anderson, R. Strangeway, C. T. Russell, J. Slavin, K. Bromund, F. Plaschke, W. Magnes, D. Fisher, R. Nakamura, H. Leinweber, R. Torbert, O. LeContel, D. Oliveira, J. Raeder, and L. Kepko**, Swarm Observations of Field Aligned Currents during Geomagnetic Storms, *SM11A-06, AGU Fall Meeting*, San Francisco, California, December 2015.
- [I147] **Raeder, K. Germaschewski, W. D. Cramer, L. Wang, B. Ferdousi, J. Jensen, N. Ahmadi, K. Maynard, D. Oliveira, S. Kavosi, and H.-J. Kim-Connor**, Earth's Magnetosphere on Trillion, *UNH Research Computing Day*, Durham, NH, March 2016.
- [I148] **Raeder, W. D. Cramer, J. Jensen, F. Toffoletto, S. Sazykin, and H. Vo**, OpenGGCM-RCM modeling of Sub-Auroral Polarization Streams, *Colloquium Presentation*, Dartmouth College, NH, February 2016.
- [I149] **Raeder, J., W. D. Cramer, J. Jensen, F. Toffoletto, S. Sazykin, and H. Vo**, Sub-Auroral Polarization Streams - A Complex Interaction Between the Magnetosphere, Ionosphere, and Thermosphere, *15th Annual International Astrophysics Conference: The Science of Ed Stone: Celebrating his 80th Birthday*, Cape Coral, April 2016.
- [I150] **Raeder, J.**, OpenGGCM New Developments, *CCMC Workshop*, Annapolis, Maryland, April 2016.
- [I151] **Raeder, J., B. Ferdousi, and W. D. Cramer**, Tail-Ionosphere Connection, *4th Cluster-THEMIS Workshop*, Palm Springs, CA, November 2016.
- [I152] **Kavosi, S., and J. Raeder**, Kelvin-Helmholtz Waves at Earth's Magnetopause, *4th Cluster-THEMIS Workshop*, Palm Springs, CA, November 2016.

- [I153] **Raeder, J., and B. Ferdousi**, MHD Wave Propagation in the Magnetosphere, *ISSI Workshop: Magnetoseismology*, Bern, Switzerland, March 2017.
- [I154] **Raeder, J., W. D. Cramer, and J. Jensen**, Separating Earth's Internal and External Field in SWARM Observations with the Help of Global Magnetosphere-Ionosphere- Thermosphere Simulations, *4th SWARM Science Meeting*, Banff, Canada, March 2017.
- [I155] **Raeder, J., J. Anderson, T. Hoar, and T. Matsuo**, OpenGGCM Data Assimilation with DART, *AFOSR Program Review*, Albuquerque, NM, April 2017.
- [I156] **Raeder, J.**, Modeling the Magnetosphere with OpenGGCM, *Colloquium, Institut für Geophysik und Meteorologie der Universität zu Köln*, Köln, Germany, May 2017.
- [I157] **Raeder, J.**, Generation, Topology, and Motion of Flux Transfer Events, *AGU Chapman Conference on Dayside Magnetosphere Interactions*, Chengdu, China, July 2017 .
- [I158] **Raeder, J.**, Flux Transfer Events and Kelvin-Helmholtz Waves at Earth's Magnetopause, *Colloquium, LASP, Colorado University*, Boulder, CO, August 2017.
- [I159] **Raeder, J., J. Anderson, T. Hoar, and T. Matsuo**, Magnetosphere Data Assimilation with OpenGGCM and DART, *AFOSR Program Review*, Albuquerque, NM, January 2018.
- [I160] **Raeder, J., K. Germaschewski, L. Wang, D. Cramer, and J. Jensen, A. Bhattacharjee, A. Hakim, F. Toffoletto, S. Sazykin, T. Fuller-Rowell, N. Maruyama, T. Matsuo, J. Anderson, T. Hoar, and N. Collins**, OpenGGCM, *CCMC Workshop*, College Park, MD, April 2018.
- [I161] **Chi, P., J. Raeder, B. Ferdousi, and C. T. Russell**, Travel-time Magnetoseismology: Successes and Outstanding Questions, *2019 Fall AGU Meeting*, San Francisco, CA, December 2019.
- [I162] **Erickson, P., J. C. Foster, S. Zhang, A. Coster, J. Raeder, B. Ferdousi and N. Maruyama**, Some Recent Observational and Theoretical Progress in Understanding Inner Magnetosphere Plasma Transport Dynamics, *2019 Fall AGU Meeting*, San Francisco, CA, December 2019.
- [I163] **Raeder, J.**, Global MHD, GSFC Magnetosphere Seminar Series, virtual, <https://msolss.github.io/MagSeminars/2020/10/26/Global-MHD.html>, October 2020.

Contributed presentations

- [C1] **Raeder, J., A. Ebel, and J. Wohlenberg**, Thermomechanische Auswirkungen der Endlagerung hochradioaktiver Abfälle in Salzdiapiren, *45. Jahrestagung der DGG*, München, 1985.
- [C2] **Raeder, J., F. M. Neubauer, N. F. Ness, and L. F. Burlaga**, Macroscopic perturbations of the IMF by P/Halley as seen by the Giotto magnetometer, *20th ESLAB Symposium on the Exploration of Halley's Comet*, Heidelberg, FRG, 1986.
- [C3] **Raeder, J., R. D. Sydora, and F. M. Neubauer**, Transport of pickup ions in cometary atmospheres, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 68, no. 44), 1987.
- [C4] **Raeder, J.**, Mehflüssigkeiten Teilchen-MHD Simulation der Wechselwirkung eines Kometen mit dem Sonnenwind, *48. Jahrestagung der DGG*, Köln, 1988.
- [C5] **Raeder, J., and F. M. Neubauer**, A simulation study of the interaction of a comet with discontinuities in the solar wind, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 69, no. 44), 1988.
- [C6] **Raeder, J., and F. M. Neubauer**, Eine Simulationsstudie zur Wechselwirkung eines Kometen mit Diskontinuitäten im Sonnenwind, *49. Jahrestagung der DGG*, Stuttgart, 1989.
- [C7] **Raeder, J., F. M. Neubauer, L. F. Burlaga, G. Musmann, and N. F. Ness**, Similarities of the Halley pileup boundary with solar wind sector boundaries, *AGU Chapman Conference on Cometary Plasma Processes*, Guildford, UK, 1989.
- [C8] **Raeder, J.**, A multifluid/anisotropic pressure study of the global interaction of a comet with the solar wind, *AGU Chapman Conference on Cometary Plasma Processes*, Guildford, UK, 1989.
- [C9] **Raeder, J., and F. M. Neubauer**, A simulation study of the interaction of a comet with the solar wind - multiple ion species and anisotropic pressure, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 70, no. 43), 1989.
- [C10] **Raeder, J., and F. M. Neubauer**, Ein Modell der Wechselwirkung eines Kometen mit dem Sonnenwind: Mehrere Ionensorten und anisotroper Druck, *54. Physikertagung, AEP*, München, 1990.
- [C11] **Raeder, J., J. Berchem, D. Schriver, and M. Ashour-Abdalla**, Simulations of broadband electrostatic noise from the lobe to the plasma sheet, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 71, no. 43), 1990.
- [C12] **Raeder, J., J. Berchem, and M. Ashour-Abdalla**, Simulation studies of reconnection and multi - ion flows at the magnetopause, *AGU Spring Meeting*, Baltimore, Maryland, (EOS, vol. 72, no. 17), 1991.
- [C13] **Pritchett, P. L., and J. Raeder**, Three dimensional Simulations of active electron beam experiments, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 72, no. 44), 1991.
- [C14] **Raeder, J., and M. Ashour-Abdalla**, Global multifluid simulation studies of the Earth's magnetosphere with time variable solar wind conditions, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 72, no. 44), 1991.
- [C15] **Wang, F., M. Ashour-Abdalla, R. J. Walker, J. Raeder, J. Berchem, and T. Ogino**, A comparison between the Tsyanenko magnetic field model and global MHD simulations, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 72, no. 44), 1991.
- [C16] **Raeder, J.**, The generation of waves and turbulence in the magnetosheath: A global multifluid simulation with anisotropic pressure, *AGU Spring Meeting*, Montreal, Canada (EOS, vol. 73, no. 14), 1992.
- [C17] **Peredo, M., D. P. Stern, J. Raeder, R. J. Walker, and M. Ashour-Abdalla**, Use of magnetospheric modeling techniques to analyze global MHD simulations, *AGU Spring Meeting*, Montreal, Canada (EOS, vol. 73, no. 14), 1992.
- [C18] **Pritchett, P. L., and J. Raeder**, Three dimensional simulations of the CHARGE-2B electron experiments, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 73, no. 43), 1992.
- [C19] **Raeder, J.**, Ionospheric convection patterns for northward IMF and variable B_y : Simulation results from a coupled global MHD magnetosphere - ionosphere model, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 73, no. 43), 1992.
- [C20] **Convery, P., J. Raeder, R. J. Walker, and M. Ashour-Abdalla**, Magnetic field and flow signatures at the deep tail magnetopause, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 73, no. 43), 1992.
- [C21] **Raeder, J.**, The structure of the deep geomagnetic tail and its response to solar wind variations, *Yosemite 1993, Solar System Plasma Physics: Resolution of Processes in Space and Time*, Yosemite National Park, California, February 1993.
- [C22] **Raeder, J., R. J. Walker, and M. Ashour-Abdalla**, The ionosphere - magnetosphere current system from a global MHD simulation, *AGU Spring Meeting*, Baltimore, Maryland, (EOS, vol. 74, no. 16), 1993.
- [C23] **Ebrahimian, T., J. Berchem, J. Raeder, R. J. Walker, and M. Ashour-Abdalla**, Interactive visualization of numerical simulation results: A tool for mission planning and analysis, *AGU Spring Meeting*, Baltimore, Maryland, (EOS, vol. 74, no. 16), 1993.
- [C24] **Raeder, J.**, Slow shocks and other discontinuities in the distant tail, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 74, no. 43), 1993.
- [C25] **Berchem, J., J. Raeder, and M. Ashour-Abdalla**, Local and global structures of the dayside magnetospheric boundary inferred from 3d MHD global simulations, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 74, no. 43), 1993.
- [C26] **Pulkkinen, T. I., D. N. Baker, R. J. Walker, J. Raeder, and M. Ashour-Abdalla**, Comparison of global MHD simulations with an empirical magnetic field model during substorms, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 74, no. 43), 1993.

- [C27] **Raeder, J.**, Convection bays and substorms: Results from global MHD simulations, *2nd International Conference on Substorms*, Fairbanks, Alaska, March 1994.
- [C28] **McAlexander, R., J. Berchem, J. Raeder, and M. Ashour-Abdalla**, Flux ropes at the magnetospheric boundary: Results from global MHD simulations, *AGU Spring Meeting*, Baltimore, Maryland, (EOS, vol. 75, no. 16), 1994.
- [C29] **Raeder, J.**, Modeling the solar wind dependence of ionospheric currents and fields using global MHD simulations, *AGU Spring Meeting*, Baltimore, Maryland, (EOS, vol. 75, no. 16), 1994.
- [C30] **Berchem, J., J. Raeder, R. J. Walker, and M. Ashour-Abdalla**, Using global MHD simulations to predict space weather: Magnetopause motion, *AGU Spring Meeting*, Baltimore, Maryland, (EOS, vol. 75, no. 16), 1994.
- [C31] **Raeder, J., J. Berchem, and M. Ashour-Abdalla**, An assessment of the global energy budget of the Earth's magnetosphere using global MHD simulations, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 75, no. 44), 1994.
- [C32] **Berchem, J., J. Raeder, M. Ashour-Abdalla, D. Winterhalter, J. T. Gosling, and C. T. Russell**, Interaction of an interplanetary shock with Earth's magnetosphere: Comparisons of a global magnetohydrodynamic simulation with ISEE observations, *AGU Fall Meeting*, San Francisco, California, (EOS, vol. 75, no. 44), 1994.
- [C33] **El-Alaoui, M., M. Ashour-Abdalla, J. Raeder, and J. M. Bosqued**, Simulation of ion trajectories in the magnetotail using time-dependent electromagnetic fields, *AGU Spring Meeting*, Baltimore, Maryland, (EOS, vol. 76, no. 16), 1995.
- [C34] **Raeder, J., J. Berchem, and M. Ashour-Abdalla**, Space weather forecasting using global MHD simulations: Synoptic weather maps of the ionosphere, *AGU Spring Meeting*, Baltimore, Maryland (EOS, vol. 76, no. 16), 1995.
- [C35] **Raeder, J., J. Berchem, and M. Ashour-Abdalla**, Studies of the magnetotail structure and dynamics using global MHD simulations, *IUGG XXI General Assembly*, Boulder, Colorado, 1995.
- [C36] **Berchem, J., J. Raeder, M. Ashour-Abdalla, L. A. Frank, W. R. Paterson, K. L. Ackerson, S. Kokubun, T. Yamamoto, and R. P. Lepping**, Dynamics of the Earth's distant tail: Comparison of Geotail plasmas and magnetic field observations with global MHD simulation results, *IUGG XXI General Assembly*, Boulder, Colorado, 1995.
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- [C249] **Li, W., and J. Raeder**, Magnetic Reconnection at the Dayside and Dawnside of Cusp When IMF Bz is Near Zero, *AGU Fall Meeting*, San Francisco, California, December 2012.
- [C250] **Lin, L., K. Germaschewski, A. Bhattacharjee, K. Maynard, B. P. Sullivan, and J. Raeder**, Dayside reconnection in 3D global Hall MHD numerical simulations, *AGU Fall Meeting*, San Francisco, California, December 2012.
- [C251] **Rastaetter, L., M. Kuznetsova, A. Pulkkinen, G. Toth, J. Raeder, and M. Wiltberger**, Space Weather Model Validations Using dB/dt at High and Mid-Latitude Magnetometer Locations, *AGU Fall Meeting*, San Francisco, California, December 2012.
- [C252] **Shi, Q.-Q., M. Hartinger, V. Angelopoulos, Q.-G. Zong, A. M. Tian, S. Fu, Z. Pu, J. Raeder, and J. Weygand**, Interaction of Solar Wind Dynamic Pressure Pulse with the Magnetosphere: Comparison of Themis Observations and Simulations, *Asia Oceania Geosciences Society - American Geophysical Union Joint Assembly*, Brisbane, Australia, June 2013.
- [C253] **Lin, L., K. Germaschewski, K. Maynard, S. Abbott, and J. Raeder**, Constrained-transport Hall-MHD simulations using CWENO reconstruction with libMRC, *55th Annual Meeting of the APS Division of Plasma Physics*, Denver, CO, November 2013.
- [C254] **Zhu, P., and J. Raeder**, Ballooning Instability Induced Plasmoid Formation in Near-Earth Plasma Sheet, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C255] **Ge, Y., and J. Raeder**, Formation and evolution of plasmoids and flux-ropes in the Earth's Magnetotail, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C256] **Maynard K. M., K. Germaschewski, L. Lin, and J. Raeder**, FTE Dependence on IMF Orientation and Presence of Hall Physics in Global MHD Simulations, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C257] **Ahmadi, N., K. Germaschewski, and J. Raeder**, PIC simulations of magnetosheath mirror mode structures, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C258] **Kavosi, S., and J. Raeder**, THEMIS survey of the frequency of Kelvin-Helmholtz waves at Earth's magnetopause, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C259] **Strangeway, R. J., J. M. Weygand, A. Runov, F. Jiang, and J. Raeder**, Mapping Between the Ionosphere and the Magnetosphere Using Global Magnetohydrodynamic Simulations, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C260] **Oliveira, D., and J. Raeder**, Role of symmetry in the geo-effectiveness of interplanetary shocks, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C261] **Shi, Q.-Q., M. Hartinger, V. Angelopoulos, A. Tian, Q. Zong, S. Fu, Z. Pu, J. M. Weygand, X. Zhou, X. Zhou, J. Raeder, A. C. Kellerman, M. W. Dunlop, and Z. Yao**, Solar wind dynamic pressure pulse driven magnetospheric vortices and waves, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C262] **Connor, H. J., E. Zesta, D. M. Ober, and J. Raeder**, The relative importance of dayside and nightside reconnection on the ionospheric convection system during sudden enhancements of solar wind dynamic pressure: OpenGGCM-CTIM results, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C263] **Raeder, J., and K. Germaschewski**, Dipole tilt and IMF control of Flux Transfer Event motion, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C264] **Li, W., J. Raeder, Y. Ge, and M. L. Gilson**, Effect of outer magnetosphere pre-conditioning on the inner magnetosphere during a magnetic storm, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C265] **Lin, L., K. Germaschewski, K. M. Maynard, S. Abbott, A. Bhattacharjee, and J. Raeder**, Global magnetosphere simulations using constrained-transport Hall-MHD with CWENO reconstruction, *AGU Fall Meeting*, San Francisco, California, December 2013.
- [C266] **Connor, H. K., M. Fedrizzi, E. Zesta, T. Fuller-Rowell, J. Raeder, and D. G. Sibeck**, Initial results of storm-time IT responses using OpenGGCM-CTIM global magnetosphere-ionosphere-thermosphere model, *2014 CEDAR Workshop*, Seattle, Washington, June 2014.
- [C267] **Raeder, J., S. Kavosi, and K. Germaschewski**, Interaction of Flux Transfer Events and Kelvin-Helmholtz Waves at Earth's Magnetopause, *Geospace Revisited*, Rhodes, Greece, September 2014.
- [C268] **Zhou, X., Z.-Z. Zhou, V. Angelopoulos, J. Raeder, D. Oliveira, and Q.-Q. Shi**, Observations and MHD Simulations for a Shocked Magnetotail, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [C269] **Germaschewski, K., J. Raeder, A. Bhattacharjee, L. Lin, K.-R. Maynard, and L. Wang**, Status of the Next-Generation OpenGGCM Model, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [C270] **Oliveira, D., and J. Raeder**, Impact Angle Control of Interplanetary Shock Geoeffectiveness, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [C271] **Connor, H.-J., D. Sibeck, M. Collier, K. Kuntz, and J. Raeder**, Soft X-ray and ENA imaging of the Earth's dayside magnetosphere: OpenGGCM modeling results, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [C272] **Maynard, K.-R., K. Germaschewski, L. Lin, and J. Raeder**, Hall MHD in the Magnetopause with OpenGGCM, *AGU Fall Meeting*, San Francisco, California, December 2014.

- [C273] **Ahmadi, N., K. Germaschewski, and J. Raeder**, Nonlinear Evolution of the Mirror Instability in the Magnetosheath Using PIC Simulations, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [C274] **Raeder, J., W. D. Cramer, K. Germaschewski, and Y. Ge**, Opengcm Simulations of Energy Conversion in Dipolarization Fronts, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [C275] **Ge, Y., J. Raeder, and A. Du**, Global simulation of formation and evolution of plasmoid and flux-rope in the Earth's Magnetotail, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [C276] **Cramer, W.-D., J. Raeder, and F. Toffoletto**, Relative Contributions of Ring Current Plasma Transport Mechanisms in the Magnetotail, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [C277] **Zesta, E., H.-J. Connor, Y. Shi, J. Raeder, M. Fedrizzi, T. Fuller-Rowell, and M. Codrescu**, Tracking the energy input from the magnetosphere to the ionosphere-thermosphere system, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [C278] **Ferdousi, B., and J. Raeder**, Signal Propagation from the Tail to the Ionosphere, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [C279] **Kavosi, S., and J. Raeder**, Ubiquity of Kelvin-Helmholtz Waves at Earth's Magnetopause, *AGU Fall Meeting*, San Francisco, California, December 2014.
- [C280] **Raeder, J., S. Kavosi, and W. D. Cramer**, From Kelvin-Helmholtz to ULF waves, *IMC-3*, University of California, Los Angeles, CA, March 2015.
- [C281] **Ge, Y., and J. Raeder**, Formation and evolution of plasmoid and flux-rope in the Earth's Magnetotail, *2015 EGU Meeting*, Vienna, Austria, April 2015.
- [C282] **Raeder, J., and S. Kavosi**, Kelvin-Helmholtz Waves at Earth's Magnetopause: Statistics and Global Simulations, *Asia Oceania Geosciences Society*, Singapore, August 2015.
- [C283] **Raeder, J., and D. Oliveira**, Geomagnetic Activity Triggered by Interplanetary Shocks: Controlling Factors, *Asia Oceania Geosciences Society*, Singapore, August 2015.
- [C284] **Wang, L., K. Germaschewski, A. Hakim, A. Bhattacharjee, and J. Raeder**, Multi-Fluid Moment Simulations of Ganymede using the Next-Generation OpenGGCM, *SM54A-04, AGU Fall Meeting*, San Francisco, California, December 2015.
- [C285] **Ferdousi, B., and J. Raeder**, A Numerical Simulation of Impulses in the Magnetosphere Associated with Substorms: OpenGGCM Result, *SM13D-2540, AGU Fall Meeting*, San Francisco, California, December 2015.
- [C286] **Ahmadi, N., K. Germaschewski, and J. Raeder**, Effects of Electron Temperature Anisotropy on Mirror Instability Evolution in the Magnetosheath, *SM13C-2522, AGU Fall Meeting*, San Francisco, California, December 2015.
- [C287] **Jensen, J., J. Raeder, and W. D. Cramer**, Effects of Particle Precipitation Feedback on the Earth's Magnetosphere, *SM23B-2546, AGU Fall Meeting*, San Francisco, California, December 2015.
- [C288] **Oliveira, D., J. Raeder, B. Tsurutani, and J. Gjerlov**, Geomagnetic activity triggered by interplanetary shocks: The shock impact angle as a controlling factor, *SM13A-2471, AGU Fall Meeting*, San Francisco, California, December 2015.
- [C289] **Germaschewski, K., L. Wang, K. Maynard, and J. Raeder**, Integrating extended MHD and kinetic physics into the next-generation OpenGGCM, *SM51B-2562, AGU Fall Meeting*, San Francisco, California, December 2015.
- [C290] **Kavosi, S., and J. Raeder**, Kelvin-Helmholtz Instability under southward IMF: THEMIS observations and OpenGGCM simulations, *SM21C-01, AGU Fall Meeting*, San Francisco, California, December 2015.
- [C291] **Lynnyk, A., D. Sibeck, M. Silveira, and J. Raeder**, Orientation and Motion of Flux Transfer Events under Different Upstream Conditions, *SM13C-2533, AGU Fall Meeting*, San Francisco, California, December 2015.
- [C292] **Cramer, D., J. Raeder, and F. Toffoletto**, Relative Contributions of Ring Current Plasma Transport Mechanisms in the Magnetotail, *SM13D-2551, AGU Fall Meeting*, San Francisco, California, December 2015.
- [C293] **Connor, H.-J., D. Sibeck, J. Raeder, and K.-H. Trattner**, Temporal Cusp Ion Signatures and Magnetopause Reconnection during Northward IMF, *SM13A-2464, AGU Fall Meeting*, San Francisco, California, December 2015.
- [C294] **Rastaetter, L., M. Kuznetsova, S. Claudepierre, T. Guild, M. Hartinger, D. Welling, A. Glocer, I. Honkonen, and J. Raeder**, ULF Wave Modeling Challenge – Modeling Results and Application to Observations, *SM41H-2573, AGU Fall Meeting*, San Francisco, California, December 2015.
- [C295] **Connor, H. J., K. D. Kuntz, D. G. Sibeck, M. R. Collier, H. Aryan, G. Branduardi-Raymont, Y. Collado-Vega, F. S. Porter, M. E. Purucker, J. Raeder, S. L. Snowden, N. E. Thomas, B. M. Walsh**, Soft X-ray imaging techniques for calculating the Earth's dayside boundaries, *2016 EGU Meeting*, Vienna, Austria, April 2016.
- [C296] **Raeder, J., W. D. Cramer, K. Germaschewski, and J. Jensen**, Using OpenGGCM Simulations to Separate Earth's Internal and External Field in SWARM Observations, *ESA Living Planet Symposium*, Prague, Czech Republic, May 2016.
- [C297] **Chané, E., J. Saur, J. Raeder, F. M. Neubauer, and S. Poedts**, The Magnetosphere of the Earth under Sub-Alfvénic Solar Wind Conditions, *Asia Oceania Geosciences Society*, Beijing, China, July 2016.
- [C298] **Ge, Y., J. Raeder, A. Du, and H. Zhang**, Formation And Evolution Of Plasmoid And Flux-rope In The Earth's Magnetotail, *Asia Oceania Geosciences Society*, Beijing, China, July 2016.

- [C299] **Poppe, A., M. O. Filligim, J. S. Halekas, J. Raeder, and V. Angelopoulos**, ARTEMIS observations of terrestrial ionospheric molecular ions at the Moon: implications for lunar exospheric and volatile inventories, *2016 Fall AGU Meeting*, San Francisco, CA, December 2016.
- [C300] **Raeder, J., W. D. Cramer, J. B. Jensen, F. Toffoletto, S. Sazykin, H. Vo, J. C. Foster, P. Erickson, P. Anderson, and N. Maruyama**, OpenGGCM-RCM Modeling and Data Comparisons for the 17 March, 2013 SAPS Event, *2016 Fall AGU Meeting*, San Francisco, CA, December 2016.
- [C301] **Maruyama, N., P. Richards, M. Denton, M. G. Henderson, Y. Obana, J. Raeder, M. Hairston, M. Fredrizzi, T. Fuller-Rowell, T. Fang, and M. Codrescu**, Investigation of the distribution of cold plasmas across geospace during storms using the IPE model, *2016 Fall AGU Meeting*, San Francisco, CA, December 2016.
- [C302] **Cramer, W. D., J. Raeder, and F. Toffoletto**, Influence of Fast Flows in the Magnetotail on Dst as Simulated by the OpenGGCM-RCM Coupled Model, *2016 Fall AGU Meeting*, San Francisco, CA, December 2016.
- [C303] **Jensen, J. B., J. Raeder, and W. D. Cramer**, Can Particle Precipitation Affect the Magnetic Reconnection Rate in the Magnetosphere?, *2016 Fall AGU Meeting*, San Francisco, CA, December 2016.
- [C304] **Ferdousi, B., J. Raeder, and K. Murphy**, Poleward Boundary Intensification and their Relation to Plasma Sheet Dynamics: OpenGGCM Simulations and Data Comparisons, *2016 Fall AGU Meeting*, San Francisco, CA, December 2016.
- [C305] **Raeder, J., D. Cramer, J. Jensen, F. Toffoletto, S. Sazykin, H. Vo, J. Foster, P. Erickson, and P. Anderson**, Stormtime SAPS events: OpenGGCM-RCM-CTIM modeling and data comparisons, *EGU General Assembly*, Vienna, Austria, April 2017.
- [C306] **Gordeev, E., V. Sergeev, N. Tsyganenko, M. Kuznetsova, L. Rastaetter, J. Raeder, G. Toth, J. Lyon, V. Merkin, and M. Wiltberger**, The substorm loading-unloading cycle as reproduced by community-available global MHD magnetospheric models, *EGU General Assembly*, Vienna, Austria, April 2017.
- [C307] **Filligim, M. O., A. Poppe, J. Halekas, J. Raeder, V. Angelopoulos, and I. Dandouras**, Terrestrial Molecular Ion Outflow Observed at the Moon, *2017 Fall AGU Meeting*, New Orleans, LA, December 2017.
- [C308] **Cramer, W. D., J. Raeder, F. Toffoletto, M. Gilson, and B. Hu**, Plasma Sheet Injections into the Inner Magnetosphere: Two-way Coupled OpenGGCM-RCM model results, *2017 Fall AGU Meeting*, New Orleans, LA, December 2017.
- [C309] **Scolini, C., C. Verbeke, N. Gopalswamy, N. Wijsen, S. Poedts, M. Mierla, L. Rodriguez, J. Pomoell, W. D. Cramer, and J. Raeder**, Sun-to-Earth simulations of geo-effective Coronal Mass Ejections with EUHFORIA: A heliospheric-magnetospheric model chain approach, *2017 Fall AGU Meeting*, New Orleans, LA, December 2017.
- [C310] **Arel, D., J. Raeder, B. Ferdousi, W. D. Cramer, and K. Maynard**, OpenGGCM Simulations of Bursty Bulk Flows: Observational Signatures, *2017 Fall AGU Meeting*, New Orleans, LA, December 2017.
- [C311] **Ferdousi, B., J. Raeder, E. Zesta, K. Murphy, and W. D. Cramer**, Magnetotail processes and their ionospheric signatures, *2017 Fall AGU Meeting*, New Orleans, LA, December 2017.
- [C312] **Raeder, J., W. D. Cramer, C. Scolini, S. Poedts, and E. Chane**, Sun to Earth Geomagnetic Storm Predictions with EUHFORIA and OpenGGCM, *Fundamental Physical Processes in Solar-Terrestrial Research and Their Relevance to Planetary Physics*, Kona, HI, January 2018.
- [C313] **Raeder, J., W. D. Cramer, K. Germaschewski, P. Erickson, and N. Maruyama**, OpenGGCM Modeling of SAPS and Related Ionosphere-Thermosphere Phenomena, *Space Weather Week*, Boulder, CO, April 2018.
- [C314] **Scolini, C., C. Verbeke, N. Gopalswamy, N. Wijsen, S. Poedts, M. Mierla, L. Rodriguez, J. Pomoell, W. D. Cramer, and J. Raeder**, Sun-to-Earth simulations of geo-effective Coronal Mass Ejections with EUHFORIA: A heliospheric-magnetospheric model chain approach, *EGU General Assembly*, Vienna, Austria, April 2018.
- [C315] **Chane, E., J. Saur, J. Raeder, F. M. Neubauer, and S. Poedts**, The Magnetosphere of the Earth under Sub-Alfvenic Solar Wind Conditions as Observed on 24 and 25 May 2002, *2018 Triennial Earth-Sun Summit*, Leesburg, VA, May 2018.
- [C316] **Scolini, C., C. Verbeke, E. Chane, F. Zuccarello, S. Poedts, L. Rodriguez, J. Pomoell, W. D. Cramer, J. Raeder, and N. Gopalswamy**, Sun-to-Earth simulation of the July 12, 2012 geo-effective CME with EUHFORIA+OpenGGCM *2018 Triennial Earth-Sun Summit*, Leesburg, VA, May 2018.
- [C317] **Filligim, M., A. R. Poppe, J. S. Halekas, J. Raeder, V. Angelopoulos, and I. Dandouras**, Terrestrial molecular ion outflow observed at the Moon, *Europlanet 2018 Workshop*, Murighiol, Romania, June 2018.
- [C318] **Maruyama, N., M. Denton, M. Henderson, Y. Obana, Y. Nishimura, M. Hairston, A. Coster, P. Richards, and J. Raeder**, Storm Time Response of the Ionosphere - Plasmasphere - Magnetosphere Coupling, *42nd COSPAR Assembly*, Pasadena, CA, July 2018.
- [C319] **Raeder, J., B. Ferdousi, D. Cramer, K. Murphy, and E. Zesta**, OpenGGCM modeling results addressing the relation between BBFs, DFs, and auroral signatures, *5th Cluster-THEMIS Workshop*, Chania, Crete, Greece, September 2018.
- [C320] **Raeder, J., W. D. Cramer, K. Germaschewski, and A. Runov**, What controls the plasma specific entropy in the magnetosphere?, *2018 Fall AGU Meeting*, Washington, DC, December 2018.
- [C321] **Cramer, W. D., J. Raeder, and F. Toffoletto**, The Behavior and Effects of Plasma Injection Integration into the Ring Current Region as shown by OpenGGCM-RCM Simulations, *2018 Fall AGU Meeting*, Washington, DC, December 2018.

- [C322] **Scolini, C., C. Verbeke, E. Chane, F. Zuccarello, S. Poedts, L. Rodriguez, J. Pomoell, W. D. Cramer, J. Raeder, and N. Gopalswamy**, Observation-based Sun-to-Earth simulations of geo-effective Coronal Mass Ejections with EUHFORIA, *2018 Fall AGU Meeting*, Washington, DC, December 2018.
- [C323] **Oliveira, D., D. Arel, J. Raeder, E. Zesta, C. Mudala Ngwira, B. Carter, E. Yizengaw, A. Halford, B. Tsurutani, and J. Gjerloev**, Causes of unusually high dB/dt variations at magnetic equatorial regions, *2018 Fall AGU Meeting*, Washington, DC, December 2018.
- [C324] **Maruyama, N., T. Nishimura, W. D. Cramer, J. Raeder, Y. Obana, M. Denton, M. Henderson, L. Lyons, P. Richards, T. Fuller-Rowell, T.-W. Fang, G. Millward, J. Schoonover, R. Oehmke, R. Montuoro, C. DeLuca, Z. Li, A. Kubaryk, H. Wang, M. Fedrizzi, D. Fuller-Rowell, and R. Viereck**, How are cold plasma plumes coupled between Magnetosphere-Plasmasphere-Ionosphere?, *2018 Fall AGU Meeting*, Washington, DC, December 2018.
- [C325] **Raeder, J., W. D. Cramer, K. Germaschewski and B. Ferdousi, N. Maruyama and T. Fuller-Rowell**, Severe Space Weather: Magnetosphere Response and Ionosphere Drivers, *AGU Chapman Conference on Scientific Challenges Pertaining to Space Weather Forecasting Including Extremes*, Pasadena, CA, February, 2019.
- [C326] **Strangeway, R.J., J. Weygand, J. Raeder, A. Runov, and P. Tenfjord**, Investigating the Sources of Field Aligned Currents: A Comparison Between Data and Global Simulations, *EGU General Assembly*, Vienna, Austria, April 2019.
- [C327] **Raeder, J., W. D. Cramer, K. Germaschewski and A. Runov**, Fluid Plasma Specific Entropy in the Magnetosphere: Properties and Questions, *EGU General Assembly*, Vienna, Austria, April 2019.
- [C328] **Ferdousi, B., D. Cramer, J. Raeder, N. Maruyama, and P. Erickson**, Storm Enhanced Density, Tongues of Ionization, and Sub Auroral Polarization Streams , *LWS FG kickoff meeting*, Broomfield, CO, May 2019.
- [C329] **Raeder, J., W. D. Cramer, A. Runov, and K. Germaschewski**, Plasma Specific Entropy in the Magnetosphere, *Asia Oceania Geosciences Society - American Geophysical Union Joint Assembly*, Singapore, July 2019.
- [C330] **Ferdousi, B., J. Raeder, N. Maruyama, P. Erickson, and W. D. Cramer**, Association of SAPS Morphology with Ionosphere Parameters, *2019 Fall AGU Meeting*, San Francisco, CA, December 2019.
- [C331] **Cramer, W. D., J. Raeder, F. Toffoletto, and C. Gabrielse**, The Evolution of Plasma Sheet Injections into the Ring Current Region, *2019 Fall AGU Meeting*, San Francisco, CA, December 2019.
- [C332] **Germaschewski, K., E. Mustafa, L. Wang, C. Dong, J. Raeder, and A. Bhattacharjee**, Investigating multi-moment fluid model closures using particle-in-cell simulations, *2019 Fall AGU Meeting*, San Francisco, CA, December 2019.
- [C333] **Moretto, T., M. Hesse, M. M. Kuznetsova, G. Toth, J. Raeder, J. Lyon, and I. J. Honkonen**, Limitations of global MHD models of the Earth's magnetosphere, *2019 Fall AGU Meeting*, San Francisco, CA, December 2019.
- [C334] **Millas, D., B. Laperre, M. E. Innocenti, G. Lapenta and J. Raeder**, Data Assimilation techniques for Space Weather: optimal use of data in the sparse and limited coverage of the Solar System, *2019 Fall AGU Meeting*, San Francisco, CA, December 2019.
- [C335] **Raeder, J., B. Tulegenov, D. Cramer, B. Ferdousi, T. Fuller-Rowell, N. Maruyama, M. Fredrizzi, T.-W. Fang, J. Emmert**, Understanding and Predicting the Space Weather Impact of Extreme Solar Storms, *AFOSR Review Meeting*, Albuquerque, NM, January 2020.
- [C336] **Raeder, J., B. Tulegenov, W. Cramer, K. Germaschewski, B. Ferdousi, T. Fuller-Rowell, and N. Maruyama**, Severe Space Weather: Simulations of Scaled-Up Storms (oral presentation converted into a virtual display), *EGU General Assembly*, Vienna, Austria, May 2020.