PD Dr. Elena Kronberg

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Curriculum Vitae

Date of birth: 2. Juli 1978
Place of birth: Kemerovo, Russia
Citizenship: Germany

Education

01/2019 **Habilitation**, *Ludwig Maximilian University of Munich (LMU)*, Germany.
Research: *"Charged particles in the terrestrial magnetosphere"*

05/2006 **Dr. rer. nat.**, *Technical University of Braunschweig*, Germany.
Thesis title: *"Dynamical processes in the Jovian magnetotail"*

06/2001 **Master in Physics**, *Altai State University (ASU)*, Barnaul, Russia.
Thesis title: *"Stochastic dynamics of relativistic electrons in the vector-scalar wave field and in the static magnetic field"*

06/1999 **Bachelor in Physics**, *ASU*, Barnaul, Russia.
Thesis title: *"Stochastic dynamics of relativistic electrons in the upper-hybrid wave field and transverse magnetic field"*

Professional positions

04/2021–09/2021 **Guest Professor**, *Geophysics, Department of Earth and Environmental sciences, LMU*, Munich.
Responsibility: conduct science and teaching on the subject "Earth's magnetic field"

Since 01/2020 **Scientist**, *Geophysics, Department of Earth and Environmental sciences, LMU*, Munich.
Responsibility: Principal Investigator of the project "Ions in near-Earth space" (IONS) to depelop a predictive empirical model of the plasma pressure in the geospace environment using observations by ESA/Cluster mission and to conduct high performance simulations of the geomagnetic storms using Space Weather Modeling Framework; leader of the international project on "Energy transformation, turbulence and acceleration in space plasmas"

Since 04/2019 **Privatdozent**, *Geophysics, Department of Earth and Environmental sciences, LMU*, Munich.

08/2015–12/2019 **Guest lecturer and scientist**, *Geophysics, Department of Earth and Environmental sciences, LMU*, Munich.
Responsibility: led courses on plasma physics with application to space weather; mentored Bachelor and Master students; developed and enhanced data analysis techniques based on the INTERMAGNET data base, by including relevant physics needed to accurately characterize the geospace environment and the connection to the solar conditions

11/2006–12/2019 **Scientist**, *Max Planck Institute for Solar System Research (MPS)*, Göttingen.
Responsibility: conducted and developed new data analysis techniques including machine learning of energetic particle population observed by ESA/Cluster/RAPID instrument enhanced by observations from other Cluster spacecraft instruments and

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multiple spacecraft missions to investigate the distribution, origin and energization of magnetospheric plasmas; developed predictive models of the space environment; led the preparation of data, documentation and software tools for community use integrated in Cluster Science Archive

05/2006-10/2006 **Postdoctoral Researcher**, *MPS*, Katlenburg-Lindau.
Responsibility: explored Galileo observations to establish dynamics of the Jovian magnetosphere

09/2001-12/2002 **Scientific assistant**,
Department of general physics, ASU, Barnaul, Russia.
Responsibility: conducted seminars at undergraduate level: informatics, general physics, optics

Awards and Fellowships

2020–2023 Grant for the project “Energy transformation, turbulence and acceleration in space plasmas” in the frame of a trilateral partnership between the Ukraine, Russia and Germany, 294,000 Euros, Volkswagen Foundation, Germany

2020–2021 Travel grant from Bavaria California Technology Center, “Ionosphere-Magnetosphere coupling: combining spacecraft and ground based observations”, 8000 Euros

2020-2021 Equal opportunity in research and teaching at the LMU, 1 research assistant, 4340 Euros

2020-2022 Proposal “IONS” funded within the focused area (SPP) “Dynamic Earth” by German Research Foundation (DFG) (own position and scientific assistants, 3 years, 292,000 Euros)

2016-2019 Grant for the project “Energy transformation, turbulence and acceleration in space plasmas” in the frame of a trilateral partnership between the Ukraine, Russia and Germany, 255,900 Euros, Volkswagen Foundation, Germany, press release, e.g., Space Daily, published 19 Web of Science papers

2015 Co-Investigator (Co-I) of the Turbulence Heating ObserveR (THOR)/Ion Mass Spectrometer (IMS) instrument

2012-2014 Grant for leading an International Space Science Institute (ISSI) Team on “Heavy ions: their dynamical impact on the magnetosphere", Switzerland, Result: highly cited review in Space Science Reviews

2010 Co-I of the Cluster/RAPID instrument, Science Working Team, Belgium

2010 Team Achievement Award, RAPID Team, Cluster Workshop, Greece

2008 Work on “Comparison of periodic substorms at Jupiter and Earth” was highlighted by ESA. This story was published in many public news portals, e.g., Space Daily.

Services to the scientific community (selection)

since 2021 Guest Editor in “Earth, Planets and Space”: special issue on “DynamicEarth: Earth’s interior, surface, ocean, atmosphere, and near space interactions”

since 2020 Guest Editor “Frontiers in Astronomy” and “Space Science and Frontiers in Physics”: special issue on “Cold-Ion Populations and Cold-Electron Populations in the Earth’s Magnetosphere and Their Impact on the System”

since 2020 Topic speaker of SPP “Dynamic Earth”

2018–2019 Reviewer of the Rosetta Standard Radiation Environment Monitor (SREM) datasets for the ESA based Planetary Science Archive, European Space Astronomy Centre (ESAC)

2013–2020 Proposal Reviewer: NASA review panel, Swedish National Space Board, Kazakhstan National Centre of Science and Technology, Hungarian National Research Development and Innovation Office, Czech Science Foundation, German Research Foundation (Deutsche Forschungsgemeinschaft), Alexander von Humboldt Foundation (Germany), General Research Fund (Hong Kong)

Since 2006 Referee for peer-review journals: J. of Geophysical Research, Geophysical Research Letters, Nature physics, Nature Communications, Planetary Space Science, Space Science Reviews, Ann. Geophysicae, Astrophysical Journal, Earth, Planets and Space, Advances in Space Research, Canadian Journal of Physics, Space Weather

Organisation of scientific meetings (selection)

2021 EGU, sessions co-convener, ST2.4, "Wave-particle interactions in the Earth's inner magnetosphere, radiation belt dynamics, and coupling" and ST2.6 "The ionospheric source of plasma: effects on the plasmasphere and magnetosphere", Austria

2020 AGU, sessions co-convener, "Magnetosphere–Plasmasphere–Ionosphere Coupling: Transport of Ionospheric Ions to the Magnetosphere and Their Consequences" and "Understanding the Role of Heavy Ions and Plasma Convection in Regulating the Coupled Magnetosphere–Ionosphere Dynamics", USA

2020 DGG, sessions convener, "Nature catastrophes", "Extraterrestrial Physics", Munich

2019 AGU, session co-convener, "Magnetosphere - Plasmasphere - Ionosphere coupling: transport of ionospheric ions to the magnetosphere and their consequences", USA

2019 Cluster 29th workshop, scientific committee, 110 participants, Spain

2019 EGU, session co-convener, ST2.4, "Wave-particle interactions in the Earth's magnetosphere and radiation belt dynamics", ST2.5, "Magnetosphere - plasmasphere - ionosphere coupling: tracking of cold and heavy ionospheric ions and their impact on the magnetosphere", Austria

2018 EGU, session co-convener, ST2.9, "Wave-particle interactions in the Earth's magnetosphere and radiation belt dynamics", Austria

2016 EGU, session co-convener, ST3.3, "The dynamical ionosphere", Austria

2013 EGU, session convener, ST2.5, "Heavy ions and their dynamical impact on the magnetosphere", Austria

2013 Cluster 23rd workshop, scientific committee, 120 participants, Norway

2012 AGU, session convener, SM016, "Planetary Ion Sources and Magnetospheric Impacts", USA

2012 MPS Symposium, Germany

2010 11th CAA Cross-calibration meeting, Germany

Public outreach

2017 Video for Eclipse de Sol 2017, La Escuela Superior de Fisica y Matematicas in Mexico City, to encourage Mexican girls to combine family and science

2005–2019 Guiding public tours, participation at the open house days at MPS

Other scientific achievements

- Author of 80 peer-review publications, 21 of which I am the first author, h-index 20 and >1230 citations (Web of Science, on 20.04.2021)
- Total of more than 100 talks as the first author at international conferences and seminars at universities outside and inside of Germany.
- 28 invited talks to international conferences e.g., 47th Plasma Physics Conference (Russia), Impact of the Cold Plasma Populations in the Earth's Magnetosphere (USA), the annual Institute of Plasma, Plasma Physics Conference (UK), International Conference on Substorms (Norway, Austria), Ion Composition in the Sun-Earth System (USA), Keynote speaker at Royal Astronomical Society Specialist Discussion Meeting (UK), Japanese Geoyphysical Union Meeting (Japan), Cluster Workshop (Germany, Slovenia, USA, Greece), European Geophysical Union (EGU) General Assembly (Austria), Committee on Space Research (COSPAR) Assembly (USA, Russia), Geospace Environment Modeling Meeting (USA), Asia Oceania Geosciences Society Meeting (Australia), Western Pacific Geophysics Meeting (Taiwan), European Planetary Science Congress (Germany)
- invited colloquiums e.g., the University of Rostock, the Arctic University of Norwey, the University of Tokyo, Japan; the University of Illinois, USA; the University of West Virginia, USA; the University of Texas at Arlington, USA; Institute of Geology and Geophysics Chinese Academy of Sciences, China
- Member of ISSI Teams (including giving invited presentations) led by
  D. Turner and G. Reeves on "Understanding energetic particle injections and their effect on Earth's outer radiation belt electrons using multipoint observations",
  by M. Balikhin on "Analysis of Cluster inner magnetosphere campaign Data, in application the dynamics of waves and wave-particle interaction within the outer radiation belt",
  by M. Vogt on "How does the solar wind influence the giant planet magnetospheres?",
  by F. Gastaldello on "Soft Protons in the Magnetosphere focused by X-ray Telescopes";
  member of GEM focus group led by R. Chappell, B. Schunk and D. Welling on "The ionospheric source of magnetospheric plasma"

Memberships

- Young Center for Advanced Studies (CAS) at LMU
- Deutscher Hochschulverband (DHV)
- European Geophysical Union (EGU)
- American Geophysical Union (AGU)
- International Astronomical Union (IAU)

Administration

Since 2016 Administration of the project granted by Volkswagen Foundation

Languages

Russian (mother tongue), English (fluent), German (fluent)

Short list positions

2021 University of Rostock (W3), director of DLR institite for Solar-Terrestrial Physics, Germany

2020 Assistant/Associate Professor in Experimental/Instrumental Space Plasma Physics at the West Virginia University, USA, 2nd place

2020 Assistant/Associate Professor in space physics, at the University of Texas at Arlington USA

Teaching

My teaching activities at LMU until present are:

- **Practical Big Data Science** (MSc), 8 tutorials (2020 SS)
  Content: advising on joint project with Institute for Informatics at the LMU "Modeling of Earth's radiation environment"
- **Space weather** (MSc), 11 lectures + 3 tutorials (2016/2017 – 2020/2021 WS)
  Content: space weather hazards, solar and solar wind dynamics, the magnetosphere and ionosphere with a focus on the cause of geomagnetic field disturbances
  Evaluation: (2016/2017: note 1.65; 2017/2018: note 1.0; 2018/2019: note 1.0)
- **Mathematical Geophysics** (MSc), 11 tutorials (2017/2018 WS)
  Content: harmonic oscillator, lagrangian mechanics, discrete oscillating systems, vibrating string, elastic membrane, Fourier transform, convolution product, normal modes of a sphere
- **Geo- and Paleomagnetism** (BSc), 4 tutorials (2017 SS)
  Content: Exercises related to electromagnetodynamics (Maxwell equations, induction), calculations of simple magnetic fields and spherical harmonics
- **Modern Paleo- and Geomagnetism** (MSc), 2 lectures + 1 tutorial (2016 SS, 2017 SS, 2018 SS, 2019 SS)
  Content: a brief introduction to the magnetosphere and the ionosphere with a focus on the cause of geomagnetic field disturbances
- **The Earth's core and Geodynamo** (MSc), 2 lectures + 1 tutorial (2016 SS)
  Content: Application of magnetohydrodynamics to the external geomagnetic field

I mentored 18 Bachelor and Master students at the LMU, e.g.,:
Jamie Gorman, "Energetic particle acceleration events in the Earth's magnetosphere", (MSc), 2018, this work is under revision for peer-reviewed publication
Nina von Siebert, "Long-term electron observations in the radiation belts", (BSc), 2018
Ameya Prabhu, "ULF magnetic field variations at the ground", (MSc), 2017
Johannes Maria Vianney, "Dynamics of oxygen ions in the radiation belts", (BSc), 2017
Artem Smirnov and Frank Latallerie have written a paper on " Electron intensity measurements by the Cluster/RAPID/IES instrument in Earth's radiation belts and ring current" published in *Space Weather*, 2019.
Artem Smirnov published papers on "Calculation of adiabatic invariants using Cluster/RAPID observations" and " Medium Energy Electron Flux in Earth's Outer Radiation Belt (MERLIN): A Machine Learning Model" in JGR and Space Weather 2020, respectively.

At MPS, I was mentoring a PhD thesis:
Li Kun "Study on magnetospheric cold ion outflow" (2013)

My teaching philosophy:
My main aim as a professor is to foster intellectual curiosity and creativity in my students, while building strong foundations of knowledge. The joy of exploration and discovery is a very powerful motivator. I want to guide students in learning how to identify open problems, and how to effectively and creatively tackle them to become independent learners. I practice active learning, e.g., learning from errors, generating feelings to enhance recall, etc.
In my lectures I connect theory and practice as I believe this is the best way to maximize learning. I try to use real world examples. In my lectures and tutorials, I have used recent observations of space missions and ground-based stations. I also show results from modelling which are often very helpful to visualize complex physical processes. In my lectures I try to keep a balanced mixture of multimedia material, blackboard mathematics and a qualitative discussion of physical processes.

International and National collaborations (selection)

Plasma heating and acceleration at Earth

Elena Grigorenko (Space Research Institute, Russia), Drew Turner (Aerospace Corporation, USA), Geoff Reeves (Los Alamos National Laboratory), Liudmyla Kozak (Taras Shevchenko University, Ukraine), Ondrej Santolik (Institute of Atmospheric Physics, Czech Republic), Christina Gabrielse (UCLA, USA), Gerhard Haerendel (MPE, Germany)

Plasma heating and acceleration at Outer Planets

Marissa Vogt (Boston University, USA), Adam Masters (Imperial College, UK), Elias Roussos (MPS, Germany), Satoshi Kasahara (Tokyo University, Japan), Chihiro Tao (NICT, Japan), Caitriona Jackman (University of Southampton), Aikaterini Radioti (University of Liege)

Monitoring near-Earth plasma environment

Hao Luo (the Institute of Geology and Geophysics, China), Iannis Dandouras (IRAP, France), Lynn Kistler and Christopher Mouikis (University of New Hampshire (UNH), USA), Stein Haaland (University of Bergen), Katariina Nykyri (Embry-Riddle Aeronauvtical University, USA), Karlheinz Trattner (University of Colorado, USA), Yuri Khotyaintsev (IRF, Sweden), Stuart Gilder (LMU, Germany), Fabio Gastaldello (INAF-IASF, Italy), Kun Li (Sun Yat-sen University, China)

High-performance simulations and machine learning tools

Raluca Ilie (University of Illinois, USA), Dan Welling (University of Texas at Arlington, USA), Max Berrendorf and Evgeniy Faerman, (LMU)

Radiation belts and ring current dynamics

Yuri Shprits (GFZ, Germany), Adam Kellerman (UCLA, USA), Dan Welling (University of Texas at Arlington, USA), Satoshi Kasahara (Tokyo University, Japan), Berndt Klecker (MPE, Germany)

Ionospheric dynamics

Michael Schmidt (Technical University of Munich, Germany), Larry Lyons (UCLA, USA)

Peer-reviewed publications

Master students are marked with *, Ph.D students with ** and Postdocs with ***. The publications from Volkswagen project are marked with #.

IONOSPHERIC ION EFFECTS ON THE MAGNETOSPHERE (selection)

Kronberg, E. A., E. E. Grigorenko, R. Ilie, L. Kistler and D. Welling, Impact of ionospheric ions on magnetospheric dynamics, *AGU book "Magnetospheres in the solar system"*, doi:10.1002/9781119507512, 2020

Ilie, R., F. Bashir, **E. A. Kronberg E.,** A brief review of the ring current and outstanding problems, *AGU book "Magnetospheres in the solar system"*, accepted, 2020

Kronberg, E. A., D. Welling, L. M. Kistler, C. Mouikis, P. W. Daly, E. E. Grigorenko, B. Klecker and I. Dandouras, Contribution of energetic and heavy ions to the plasma pressure: The 27 September to 3 October 2002 storm, *J. Geophys. Res.,* 122, doi:10.1002/2017JA024215, 2017

Kronberg, E. A., M. Ashour-Abdalla, I. Dandouras, D. C. Delcourt, E. E. Grigorenko, L. M. Kistler, I. V. Kuzichev, J. Liao, R. Maggiolo, H. V. Malova, K. G. Orlova, V. Peroomian, D. R. Shklyar, Y. Y. Shprits, D. T. Welling, L. M. Zelenyi, Circulation of Heavy Ions and Their Dynamical Effects in the Magnetosphere: Recent Observations and Models, *Space Sci. Rev.,* Vol.184, 173-235, doi:10.1007/s11214-014-0104-0, 2014

MAGNETOSPHERIC PLASMA DISTRIBUTIONS (selection)

Kronberg, E. A., F. Gastaldello, S. Haaland, A. Smirnov*, M. Berrendorf, S. Ghizzardi, K. Kuntz, N. Sivadas, R. Allen, A. Tiengo, R. Ilie, Y. Huang and L. Kistler, Prediction and understanding of soft proton contamination in XMM-Newton: a machine learning approach, *Astrophysical Journal*, Vol. 903, 2, doi:10.3847/1538-4357/abbb8f, `https://arxiv.org/abs/2009.13156`, 2020

Smirnov, A. G.*, M. Berrendorf, Y. Y. Shprits **E. A. Kronberg**, H. Allison, N. A. Aseev, I. Zhelavskaya, S. Morley, G. Reeves, M. Carver, F. Effenberger, Medium Energy Electron Flux in Earth's Outer Radiation Belt (MERLIN): A Machine Learning Model, *Space Weather,* doi: 10.1029/2020SW002532, 2020

Kronberg, E. A., K. Li***, E. E. Grigorenko, R. Maggiolo, S. E. Haaland, P. W. Daly and H. Luo***, Dawn-dusk asymmetries in the near-Earth plasma sheet: ion observations, Dawn-Dusk Asymmetries in Planetary Plasma Environments, *Geophysical Monograph 230,* First Edition, Haaland S., Runov A., Forsyth C. (Eds.), ISBN: 978-1-119-21632-2, 2017

Li, K.***, S. E. Haaland, **E. A. Kronberg**, M. Andre, P. W. Daly and Y. Wei, Dawn-dusk asymmetry of ionospheric outflow, Dawn-Dusk Asymmetries in Planetary Plasma Environments, *Geophysical Monograph 230*, First Edition, Haaland S., Runov A., Forsyth C. (Eds.), ISBN: 978-1-119-21632-2, 2017

Luo, H.***, **E. A. Kronberg**, K. Nykyri, K. J. Trattner, P. W. Daly, G. X. Chen, A. M. Du and Y. S. Ge, IMF dependence of energetic oxygen and hydrogen ion distributions in the near-Earth magnetosphere, *J. Geophys. Res.,* 122, 5, 5168–5180, 2017

Kronberg, E. A., E. E. Grigorenko, S. E. Haaland, P. W. Daly, D. C. Delcourt, H. Luo***, L. M. Kistler and I. Dandouras, Distribution of energetic oxygen and hydrogen in the near-Earth plasma sheet, *J. Geophys. Res.,* 120, doi:10.1002/2014JA020882, 2015

Kronberg, E. A., S. E. Haaland, P. W. Daly, E. Grigorenko, L. M. Kistler, M. Fränz, and I. Dandouras, Oxygen and hydrogen abundance in the near-Earth magnetosphere: Statistical results on the response to the geomagnetic and solar wind activity conditions, *J. Geophys.*

Res., 117, A12208, doi:10.1029/2012JA018071, 2012

Kronberg, E. A., R. Bučík, S. Haaland, B. Klecker, K. Keika, M. I. Desai, P. W. Daly, M. Yamauchi, R. Gómez-Herrero, and A. T. Y. Lui, On the origin of the energetic ion events measured upstream of the Earth's bow shock by STEREO, Cluster, and Geotail, *J. Geophys. Res.,* 116, A02210, doi:10.1029/2010JA015561, 2011

Haaland, S., **E. A. Kronberg**, P. W. Daly, M. Fränz, L. Degener, E. Georgescu, and I. Dandouras, Spectral characteristics of protons in the Earth's plasmasheet: statistical results from Cluster CIS and RAPID, *Ann. Geophys.,* 28, 1483–1498, doi:10.5194/angeo-28-1483-2010, 2010

PLASMA ENERGIZATION, TURBULENCE, MAGNETIC RECONNECTION AND KINETIC INSTABILITIES (selection)

Nykyri, K., J. Johnson, **Kronberg, E. A.**, D. Turner, S. Wing, I. Cohen, K. Sorathia, X. Ma, B. Burkholder, G. Reeves and J. Fennell, Magnetospheric Multiscale observations of the Source Region of Energetic Electron Microinjections along the Dusk-side, High-latitude Magnetopause Boundary Layer, *Geophys. Res. Lett.,* 10.1029/2021GL092466, 2021

#Kronberg, E. A., E. E. Grigorenko, A. Malykhin, L. Kozak, B. Petrenko, M. F. Vogt, E. Roussos, P. Kollmann, C. M. Jackman, S. Kasahara, Kh. V. Malova, C. Tao, A. Radioti and A. Masters, Acceleration of ions in Jovian plasmoids: does turbulence play a role?, *J. Geophys. Res.,* 124, doi:10.1029/2019JA026553, 2019

#Malykhin, A. Yu., E. E. Grigorenko, **E. A. Kronberg,** P. W. Daly and L. V. Kozak, Magnetotail acceleration of protons and heavy ions to suprathermal energies during dipolarizations in the near-Earth magnetotail, *Ann. Geophys.,* 37, 549-559, doi:10.5194/angeo-37-549-2019, 2019

Grigorenko, E. E., S. Dubyagin, A. Yu. Malykhin, Y. Khotyaintsev, **E. A. Kronberg,** B. Lavraud and N. Yu. Ganushkina, Intense current structures observed at electron kinetic scales in the near-Earth magnetotail during dipolarization and substorm current wedge formation, *Geophys. Res. Lett.,* doi:10.1002/2017GL076303, 2018

#Malykhin, A. Yu., E. E. Grigorenko, **E. A. Kronberg,** R. Koleva, N. Yu. Ganushkina, L. Kozak, P. W. Daly, Contrasting dynamics of electrons and protons in the near-Earth plasma sheet during dipolarization , *Ann. Geophys.,* 36, 10.5194/angeo-36-741-2018, 2018

#Cheremnykh, O., S. Cheremnykh, L. Kozak and **E. A. Kronberg**, Magnetohydrodynamic waves and the Kelvin-Helmholtz instability at the boundary of plasma mediums, *Physics of Plasmas,* 25, 10.1063/1.5048913, 2018

#Kozak, L. V., B. Petrenko, A. T. Y. Lui, **E. A. Kronberg** and A. S. Prokhorenkov, Turbulent processes in the Earth's magnetotail: spectral and statistical research, *Ann. Geophys.,* 36, doi:10.5194/angeo-36-1303-2018, 2018

#Grigorenko, E. E., **E. A. Kronberg** and P. W. Daly, Heating and acceleration of charged particles during magnetic field dipolarizations, *Cosmic Research,* 55, 1, 57-66, doi:10.1134/S0010952517010063, 2017

#**Kronberg, E. A.**, E. Grigorenko, D. L. Turner, P. W. Daly, Y. Khotyaintsev and L. Kozak, Comparing and contrasting dispersionless injections at geosynchronous orbit during a substorm event, *J. Geophys. Res.,* 122, 10.1002/2016JA023551, 2017

#Grigorenko, E. E., **E. A. Kronberg,** P. W. Daly, N. Yu. Ganushkina, B. Lavraud, J.-A. Sauvaud and L. M. Zelenyi, Origin of low proton-to-electron temperature ratio in the Earth's plasma sheet, *J. Geophys. Res.,* 121, 10, 9985–10004,

doi:10.1002/2016JA022874, 2016

Grigorenko, E. E., A. Yu. Malykhin, **E. A. Kronberg**, Kh. V. Malova, P. W. Daly, Acceleration of ions to suprathermal energies by turbulence in the plasmoid-like magnetic structures, *J. Geophys. Res.,* 120, doi:10.1002/2015JA021314, 2015

Luo, H.***, **E. A. Kronberg**, E. E. Grigorenko, M. Fränz, P. W. Daly, G. X. Chen, A. M. Du, L. M. Kistler, and Y. Wei, Evidence of strong energetic ion acceleration in the near-Earth magnetotail, *Geophys. Res. Lett.,* Vol. 41, 1–5, doi:10.1002/2014GL060252, 2014

Grigorenko, E. E., H. V. Malova, A. A. Artemyev, **E. A. Kronberg**, R. Koleva, P. W. Daly, J. B. Cao, C. J. Owen, J.-A. Sauvaud and L. M. Zelenyi, Current sheet structure and kinetic properties of plasma flows during a near-Earth magnetic reconnection under the presence of a guide field, *J. Geophys. Res.,* Vol. 118, Issue 6, pp. 3265–3287, doi:10.1002/jgra.50310, 2013

Kasahara, S., **E. A. Kronberg**, N. Krupp, T. Kimura, C. Tao, S. V. Badman and M. Fujimoto, Asymmetric distribution of reconnection jet fronts in the Jovian nightside magnetosphere, *J. Geophys. Res.,* 118, doi:10.1029/2012JA018130, 2013

Kronberg, E. A., S. Kasahara, N. Krupp and J. Woch, Field-aligned beams and reconnection in the Jovian magnetotail, *Icarus,* 217, pp. 55-65, doi:10.1016/j.icarus.2011.10.011, 2012

Kasahara, S., **E. A. Kronberg**, N. Krupp, T. Kimura, C. Tao, S. V. Badman, A. Retino and M. Fujimoto, Magnetic reconnection in the Jovian tail: X-line evolution and consequent plasma sheet structures, *J. Geophys. Res., J. Geophys. Res.,* 116, A11219, doi:10.1029/2011JA016892, 2011

Kronberg, E. A., A. Kis, B. Klecker, P.W. Daly, and E. A. Lucek, Multipoint observations of ions in the 30–160 keV energy range upstream of the Earth's bow shock, *J. Geophys. Res.,* 114, A03211, doi:10.1029/2008JA013754, 2009

OBSERVATIONS OF JUPITER'S AND SATURN'S MAGNETOSPHERES

Tao, C., T. Kimura, **E. A. Kronberg**, F. Tsuchiya, G. Murakami, A. Yamazaki, M. F. Vogt, B. Bonfond, K. Yosihoka, I. Yoshikawa, Y. Kasaba, H. Kita, and S., Variation of Jupiter's Aurora Observed by Hisaki/EXCEED: 4. Quasi-Periodic Variation, *J. Geophys. Res.,* 126, 10.1029/2020JA028575, 2021

Vogt, M. F., S. Gyalay, **E. A. Kronberg**, E. J. Bunce, W. S. Kurth, B. Zieger, C. Tao, Solar wind interaction with Jupiter's magnetosphere: A statistical study of Galileo in situ data and modeled upstream solar wind conditions, *J. Geophys. Res.,* 122, doi:10.1029/2019JA026950, 2019

Krupp, N., **E. A. Kronberg**, and A. Radioti, Jupiter's Magnetotail, Magnetotails in the Solar System, *American Geophysical Union,* A. Keiling, C. Jackman, P. Delamere (Eds.), ISBN: 978-1-118-84234-8, 2015

Louarn, P., N. Andre, C. M. Jackman, S. Kasahara, **E. A. Kronberg**, M. F. Vogt, Magnetic Reconnection and Associated Transient Phenomena Within the Magnetospheres of Jupiter and Saturn, *Space Sci. Rev.,* Vol. 187, 1–4, pp. 181–227, doi:10.1007/s11214-014-0047-5, 2015

Rymer, A., D. G. Mitchell, T. W. Hill, **E. A. Kronberg**, N. Krupp and C. M. Jackman, Saturn's magnetospheric refresh rate, *Geophys. Res. Lett.,* Vol. 40, 1–5, doi:10.1002/grl.50530, 2013

Kronberg, E. A., J. Woch, N. Krupp and A. Lagg, A summary of observational records on periodicities above the rotational period in the Jovian magnetosphere, *Ann. Geophys.*, 27, 2565–2573, doi:10.5194/angeo-27-2565-2009, 2009

Kronberg, E. A., J. Woch, N. Krupp, A. Lagg, Mass release process in the Jovian magnetosphere: Statistics on particle burst parameters, *J. Geophys. Res.,* 113, A10202, doi:10.1029/2008JA013332, 2008

Kronberg, E. A., J. Woch, N. Krupp, A. Lagg, P. W. Daly, and A. Korth, Comparison of periodic substorms at Jupiter and Earth, *J. Geophys. Res.,* 113, A04212, doi:10.1029/2007JA012880, 2008

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