

Curriculum Vitae

Personal data

Dr. Natalia Ganushkina
(name as in passport Natalia Ganjushkina)

Office address:

University of Michigan, Department of Climate and Space Sciences and Engineering,
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Second affiliation:

Finnish Meteorological Institute, P.O.Box 503, Helsinki, FIN-00101, Finland
Phone: +358-29-539-4645
Email: Natalia.Ganushkina@fmi.fi;

Academic education and degrees

April 2010: Docent (Space Physics), University of Helsinki, Helsinki, Finland.

September 1997: Ph.D. (Physics and Chemistry of Plasma), Moscow State University, Physics Department, Moscow, Russia. Thesis title: "Formation of the magnetostatically equilibrium Region 1 field-aligned currents and the dawn-dusk electric field in the Earth's Magnetosphere". Advisors: Prof. B. A. Tverskoy and Dr. E. E. Antonova

January 1994: MS (Physics), Moscow State University, Physics Department, Moscow, Russia. Diploma title: "Characteristics of the magnetostatic equilibrium processes in the Earth's magnetosphere and the coordinate system for their description". Advisor: Dr. E. E. Antonova.

Research Experience

September 2013-present: associate research scientist, Department of Climate and Space Sciences and Engineering (former Department of Atmospheric, Oceanic, and Space Sciences), University of Michigan, Ann Arbor, USA.

May 2009-August 2013: Assistant Research scientist at University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ann Arbor, USA.

January 2008-present: Research Scientist at Finnish Meteorological Institute, Earth Observations, Helsinki, Finland (organization change).

March 2004-December 2007: Research Scientist at Finnish Meteorological Institute, Space Research, Helsinki, Finland (organization change).

November 2000-February 2004: Research Scientist at Finnish Meteorological Institute, Geophysical Research, Helsinki, Finland.

November, 1998-October 2000: post doc at Finnish Meteorological Institute, Geophysical Research, Helsinki, Finland.

April 1997-November 1998: Research Scientist, Lomonosov Moscow State University, Moscow, Russia.

January 1994-April 1997: Graduate Research Assistant, Lomonosov Moscow State University, Moscow, Russia.

September 1989-December 1994: Undergraduate Research Assistant, Lomonosov Moscow State University, Moscow, Russia.

Work as Visiting Scientist

September – December 2009: Visiting Professor at CESR (Centre d'Etude Spatial des Rayonnements), Toulouse, France, as Poste Rouge Fellowship.

June 2008-April 2009: Visiting Research Scientist at University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ann Arbor, USA.

January-March, 2005: Visiting Scientist at Tokyo Institute of Technology, Department of Earth and Planetary Sciences, Tokyo, Japan.

August-September 2003: Visiting Scientist at Max-Planck Institute for Extraterrestrial Physics, Garching, Germany.

August-September 2002: Visiting Scientist at Max-Planck Institute for Extraterrestrial Physics, Garching, Germany.

February - March 2001: Visiting Scientist at National Institute of Polar Research, Department of Upper Atmosphere Physics, Tokyo, Japan.

November 1997-February 1998 and May 1998-September 1998: Visiting Scientist at Institut d'Aeronomy Spatial de Belgique, Brussels, Belgium

May-September 1996: Visiting Scientist at East-West Space Science Center under supervision of Academician R. Z. Sagdeev, University of Maryland, Maryland, USA.

Teaching experience

March-May 2015: "Observational Space Physics" lecture course, Code: 53319, 5 credits, March 10, 2015-April 30, 2015 (14 lectures of 2 hours), University of Helsinki, Faculty of Science, Department of Physics, Helsinki, Finland.

March-May 2013: "Observational Space Physics" lecture course, Code: 53776, 5 credits, March 11, 2013-May 2, 2013 (14 lectures of 2 hours), University of Helsinki, Faculty of Science, Department of Physics, Helsinki, Finland.

January-April 2011: Lecturer at graduate course "AOSS 595 - Magnetosphere and Solar Wind", Department of Atmospheric, Oceanic and Space Sciences, University of Michigan, Ann Arbor, USA.

September 2010-May 2011: Second Advisor (together with Prof. Mark Moldwin): Graduate student, Erica Morgan, University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ann Arbor, USA.

January-April 2009: Lecturer at graduate course "AOSS 595 - Magnetosphere and Solar Wind", Department of Atmospheric, Oceanic and Space Sciences, University of Michigan, Ann Arbor, USA.

September 2008-May 2009: Project adviser for undergraduate student Amanda Mims (University of Michigan, College of Engineering) at Department of Atmospheric, Oceanic and Space Sciences, University of Michigan, Ann Arbor, USA.

June-August 2007: Advisor for summer student Anna-Stiina Sirvio (undergraduate student of Department of Physics of the University of Helsinki, Finland) at FMI/Space Research.

April 2007: Lecturer at International School of Space Science 2007 Course on Magnetospheric Dynamics 9-15 April 2007, L'Aquila, Italy

March-May 2007: Lecturer at the Department of Physics of the University of Helsinki, Finland, lecture course 'Observational Space Physics'. This course was fully prepared and taught by Dr. Natalia Ganushkina

February, 2006: Lecturer at the Department of Physics of the University of Helsinki, Finland, Research Seminar on Sun-Earth Connections.

May-August, 2002: Advisor for summer student Jussi Korhonen (undergraduate student of department of Physics of the University of Helsinki, Finland) at FMI/Geophysical research division.

June-September, 2001: Advisor for summer student Tommi Karhunen (undergraduate student of University of Leicester, Leicester, UK) at FMI/Geophysical research division.

April 1994-April 1997: Practical course on Cosmic Rays and Space Physics, at Physics Department Lomonosov Moscow State University, Moscow, Russia.

September 1994-May 1995: Mathematics and Physics at Moscow High school N286.

PhD students

- (1). **Member of PhD Committee** for Roxanne Katus, University of Michigan, AOSS, Ann Arbor MI, USA. PhD defense on May 1st, 2014.
- (2). **External Examiner for PhD thesis**, student Ivan Pakhotin, University of Sheffield, Faculty of Engineering, Department of Automatic Control & System Engineering, Sheffield, UK, defense on October 16, 2014.
- (3). **External Examiner for PhD thesis**, student Homayon Aryan, University of Sheffield, Faculty of Engineering, Department of Automatic Control & System Engineering, Sheffield, UK, defense on December 18, 2014 during Fall AGU Meeting, December 15-19, 2014, San Francisco, CA USA.
- (4). **Member of PhD Committee** for Sidney Ellington, University of Michigan, AOSS, Ann Arbor MI, USA. PhD defense on May 18, 2016.
- (5). **Current PhD student**, John Haiducek, University of Michigan, CLASP, Ann Arbor MI, USA, estimated PhD defense date: May 2018.
- (6). **Current PhD student**, Brian Swiger, University of Michigan, CLASP, Ann Arbor MI, USA, estimated PhD defense date: May 2022.

Supervision of post-doc researchers:

- (1). Dr. Stepan Dubyagin, post doc at Finnish Meteorological Institute, Helsinki, Finland, 2011-2014
- (2). Dr. Olga Amariutei, post doc at Finnish Meteorological Institute, Helsinki, Finland, 2011-2014
- (3). Dr. Ilkka Sillanpää, post doc at Finnish Meteorological Institute, Helsinki, Finland, 2015-2017

Funded research grants

- (1). NASA, "Integrated Assessment of Radiation Belt Drivers", \$387,400, May 2008 – May 2012, PI: Michael Liemohn, **Co-PI: Natalia Ganushkina** (1 month/year), site of research: University of Michigan, Ann Arbor, USA.
- (2). Academy of Finland, Research Council for Natural Sciences and Engineering, "Similarities and differences of the Arctic and Antarctic magnetosphere-ionosphere

- coupling”, €239,992, Jan. 2008 – Dec. 2011, PI: Ari Viljanen, **Co-PI: Natalia Ganushkina**, site of research: Finnish Meteorological Institute, Helsinki, Finland.
- (3). National Science Foundation, “GEM: Assessing the Storm-Time Magnetic Distortion in the Inner Magnetosphere”, \$396,835, Feb. 2009 – Jan. 2013, PI: Michael Liemohn, **Co-PI: Natalia Ganushkina** (1 month/year), site of research: University of Michigan, Ann Arbor, USA.
- (4). NASA – HTP, “Composition and Feedback in Geospace”, \$1,223,371, April 2011 – March 2014, PI: Michael Liemohn, **Co-PI: Natalia Ganushkina** (2 months/year), site of research: University of Michigan, Ann Arbor, USA.
- (5). NASA Roses: 2011: NNH11ZDA001N-GEO, “Energization of the Electron Radiation Belt by Magnetic Pumping”, \$388,417, Dec. 2011 – Dec. 2014, PI: Joseph Borovsky, **Co-PI: Natalia Ganushkina** (0.5 month/year), site of research: University of Michigan, Ann Arbor, USA.
- (6). Academy of Finland, Research Council for Natural Sciences and Engineering, “Inner magnetosphere: Dynamical states and the configuration of fields and currents”, €361,070. Jan. 2011 – Dec. 2014, **PI: Natalia Ganushkina**, site of research: Finnish Meteorological Institute, Helsinki, Finland.
- (7). Seventh Framework Programme of the European Union, Collaborative Project SPA.2010.2.3-1, SPACECAST: “Protecting space assets from high energy particles by developing European dynamic modeling and forecasting capabilities”, €360,726 (share of Finnish Meteorological Institute), Mar. 2011 – Feb. 2014, **PI: (from Finnish Meteorological Institute) Natalia Ganushkina**, site of research: Finnish Meteorological Institute, Helsinki, Finland.
- (8). NASA Heliophysics Guest Investigator Program, “Analysis of Hot Ion Structures in the Inner Magnetosphere”, \$368,239, Dec., 2013 – Dec., 2016, PI: Michael W. Liemohn, **Co-PI: Natalia Ganushkina** (2 months/year), site of research: University of Michigan, Ann Arbor, USA.
- (9). Seventh Framework Programme of the European Union, Collaborative Project SPA.2013.2.3-01, SPACESTORM: “Modelling space weather events and mitigating their effects on satellites”, €374,778 (share of Finnish Meteorological Institute), Mar. 2014 – Feb. 2017, **PI: (from Finnish Meteorological Institute) Natalia Ganushkina**, site of research: Finnish Meteorological Institute, Helsinki, Finland.
- (10). NASA Heliophysics Supporting Research, “Revealing the Earth’s magnetotail structure from low-altitude isotropic boundaries (IB)”, \$385,097, May, 2014 – May, 2017, **PI: Natalia Ganushkina** (4 months/year), site of research: University of Michigan, Ann Arbor, USA.
- (11). European Union’s **Horizon 2020** research and innovation programme, Call: H2020-PROTEC-2014, Topic: PROTEC-1-2014, Type of action: RIA, grant agreement No 637302 PROGRESS “Prediction of Geospace Radiation Environment and solar wind parameters”, €274,395 (share of Finnish Meteorological Institute), Jan. 2015 – Dec. 2017, **PI: (from Finnish Meteorological Institute) Natalia Ganushkina**, site of research: Finnish Meteorological Institute, Helsinki, Finland.
- (12). NASA Heliophysics Guest Investigators, “New 3D Suprathermal Ion Data Products from Wind/STICS for the Solar Wind and Earth's Magnetosphere”, \$199,916.00, Feb. 2015 – Feb. 2017, PI: Jim M. Raines, **Co-PI: Natalia Ganushkina** (1 months/year), site of research: University of Michigan, Ann Arbor, USA.

(13) NASA Heliophysics Guest Investigators, "Connections Between and Drivers of Inner Magnetospheric Current Densities and Hot Ion Structures", \$452,091, Nov. 2016 - Oct. 2019, PI: Prof. M. Liemohn, **Co-PI: N. Ganushkina**, (2 months/year), site of research: University of Michigan, Ann Arbor, USA.

(14) NASA Heliophysics Supporting Research, "Solar wind driving of keV electron radiation environment in the near-Earth's space", \$668,844, Mar. 2017 – Mar. 2020, **PI: N. Ganushkina** (3 months/year), site of research: University of Michigan, Ann Arbor, USA.

(15) NASA Heliophysics Living With a Star Science, "Effect of solar variability on the geospace radiation environment", \$989,739.00, May 2017 – May 2021, PI: V. Tennishev, **Co-PI: N. Ganushkina** (1 months/year), site of research: University of Michigan, Ann Arbor, USA.

(16) NASA Heliophysics Grand Challenges Research, "Outflow and Geospace: Impact and Feedback of Heavy Ions In the Magnetosphere", \$1,042,745.00, June 2017 – May 2020, PI: Prof. M. Liemohn, **Co-PI: N. Ganushkina** (3 months/year), site of research: University of Michigan, Ann Arbor, USA.

Awards

M. Reese **Outstanding Research Scientist Award** in the College of Engineering, University of Michigan, Ann Arbor, USA, 2014.

Poste Rouge Fellowship (Visiting Professor) at CESR (Centre d'Etude Spatial des Rayonnements), Toulouse, France, 2009.

Japan Society for the Promotion of Science (JSPS), postdoctoral fellowship award for foreign researchers, 2005.

Young scientists award at Scobeltsyn Institute of Nuclear Physics Lomonosov Moscow State University, Moscow, Russia, January 1997.

Evaluation of academic/scientific competence

(1). Recommendation letter for a Research Associate, University of Sheffield, Department of Materials Science and Engineering, Faculty of Engineering, UK, April 2014.

(2). Recommendation letter for a researcher from LANL, USA, for hiring as an Assistant Research Scientist at AOSS department of the University of Michigan, December 2012.

(3). Recommendation letter for a researcher from UCLA, USA, for Visiting Fellow position at La Trobe University, Melbourne, Australia. April 2010.

(4). Researcher Review for a researcher for promotion from the rank of Assistant Researcher to Associate Researcher at UCLA, USA, Department of Atmospheric & Oceanic Sciences.

International and national peer evaluation committees of funding applications

(1) Reviewer and panelist for proposals submitted to Swedish National Space Board, May 2016-May 2017.

(2) Panel member at NASA Heliophysics Guest Investigators Evaluation Panel, Washington DC, USA, December 2015.

(3). Evaluator and Panelist for the European Commission, Call of H2020-LEIT-Space-Competitiveness of the European Space Sector-2014, H2020-COMPET-2014, Topic: Outreach through education (COMPET-10-2014), May-June 2014.

(4). External reviewer for NASA Supporting Research Evaluation Panel, September 2013.

- (5). External reviewer for National Science Foundation, Office of Polar Programs, Division of Antarctic Sciences, Antarctic Astrophysics and Geospace Sciences Program, September 2011.
- (6). External reviewer for National Science Foundation, Geospace Environment Modeling, March 2009.
- (7). Panel member at NASA Heliophysics Guest Investigators Evaluation Panel, NASA Research & Education Support Services (NRESS), Washington DC, USA, August 19-21, 2008.

Memberships and positions of trust in scientific and scholarly societies

- (1) Member of Space Research Advisory Committee (SRAC) of Swedish National Space Board, May 2016-May 2017.
- (2). AGU (American Geophysical Union) Publications Committee, member, 2010-2012 term
- (3). EGU (European Geosciences Union), Science Officer, ST (Solar-Terrestrial Sciences) Division, Magnetospheric Physics, 2009-2017
- (4). National Representative from Finland in Management Committee of the COST (European Cooperation in the Field of Scientific and technical Research) ES0803 Action “Developing space weather products and services in Europe”, 2008 – 2012.

Membership in national and international expert groups

- (1). Ethics Expert and Ethics Panel Member for European Commission, Calls: H2020-Galileo-2014-1, January 2015; H2020-FETHPC-2014, January 2015; MARIE SKLODOWSKA-CURIE ACTIONS, April 2015, 2016; H2020-COMPET-2015, H2020-EO-2015, H2020-PROTEC-2015, July 2015; H2020-SMEInst-2014-2015, August 2015; H2020-COMPET-2016, H2020-EO-2016, June 2016; H2020-MSCA-RISE-2016, July 2016; H2020-FETHPC, December 2016; H2020-MSCA-IF, November 2016; H2020-MSCA-ITN, February 2017.
- (2). Co-chair of ISSI (International Space Science Institute) team “Ring current modeling: Uncommon Assumptions and Common Misconceptions”, year 2015-2016.
- (3). Co-chair of ISSI (International Space Science Institute) team “Resolving current systems in geospace”, year 2012.

Administrative responsibilities

- (1) University of Michigan, Climate and Space Sciences and Engineering Department, Award Committee Member, Jan. 2016- present.
- (2) University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ann Arbor, USA, Qualifying Exam (final exam before getting PhD degree for every student) Committee, Jan. – May 2011, member
- (3) University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ann Arbor, USA, Oral Qualifying Exam (oral part of final exam before getting PhD degree for every student) , May 2012, examining member

Editorships

- (1). **Associate Editor**, Journal of Geophysical Research Space Physics, July 2014 -present.

(2) Editorial work: Editor of Proceedings of 7th International Conference on Substorms (ICS-7), Levi, Lapland, Finland, 22-26, 2004, FMI (Finnish Meteorological Institute) Reports, No.2004:5.

Invited keynote lectures abroad

(1). N. Yu. Ganushkina, Inner magnetosphere and space weather: Radiation Belts and Ring Current, lecture at the Summer School of European Union's **Horizon 2020 PROGRESS** project "Prediction of Geospace Radiation Environment and solar wind parameters", 25-27 July 2017, Mallorca, Spain.

(2) N. Yu. Ganushkina, Low energy (< 200 keV) electron fluxes responsible for surface charging, lecture at the Summer School of European Union's **Horizon 2020 PROGRESS** project "Prediction of Geospace Radiation Environment and solar wind parameters", 25-27 July 2017, Mallorca, Spain.

(3). N. Yu. Ganushkina, Physics of the ring current in the Earth's magnetosphere: Important problems and new challenges, 5th Isradynamics Conference, Dynamical Processes in Space and Astrophysical Plasmas, April 29 - May 7, 2012, Jerusalem, Israel.

(4). N. Yu. Ganushkina, Physics of the ring current in the Earth's magnetosphere: Important problems and new challenges, invited at Scientific Event D35 "Measurements Versus Standard Theory" 37th COSPAR Assembly, Montréal, Canada, July 13-20, 2008.

(5). N. Yu. Ganushkina, Physics of the Earth's ring current: Important problems and new challenges, invited at Isradynamics2008 (Dynamical Processes in Space Plasmas), Israel, Caesar Hotel, Ein Bokek, Dead Sea, 11-19 May 2008.

(6). Lecturer at International School of Space Science 2007 Course on Magnetospheric Dynamics 9-15 **April 2007**, L'Aquila, Italy

Conference presentations (last 5 years)

Invited Orals: 28

Contributed Orals: 18

Posters: 7

Organizing of international and national conferences

(1). Main organizer of Inner Magnetosphere Coupling workshop, July 28 - August 1, 2008, hotel Korpilampi, Espoo, Finland.

(2). Chair of LOC of 7th International Conference on Substorms, 21-27 March 2004, Levi, Finland.

(3). Member of LOC of Chapman Conference on Physics and Modelling of the Inner Magnetosphere, 25-29 August 2003, Helsinki, Finland.

(4). Member of LOC of Workshop on "Space Radiation Environment Modelling: New Phenomena and Approaches", 7-9 Oct 1997, Moscow, Russia.

(5). Member of LOC of International Workshop "Radiation in the near-Earth Space: Empirical and Physical Models", 2-4 June 1993, Dubna, Russia.

Organization of sessions at international conferences (last 5 years)

(1). ST2.1, Open Session on the Magnetosphere (including Julius Bartels Medal Lecture), Conveners: Natalia Ganushkina, Yulia Bogdanova, European Geosciences Union, General Assembly 2016, Vienna, Austria, 18-22 April 2016.

- (2). PS5.1/ST2.2, Planetary Plasma Physics and Interactions in the Solar System (co-organized), Convener: Anna Milillo, Co-Conveners: Aikaterini Radioti , Natalia Ganushkina , Philippe Garnier, European Geosciences Union, General Assembly 2016, Vienna, Austria, 18-22 April 2016.
- (3). ST1.8, Progress in Space Sciences Fostered by the European Commission, Convener: Giovanni Lapenta, Co-Conveners: Olga Malandraki , Manolis Georgoulis , Richard Harrison , Natalia Ganushkina, European Geosciences Union, General Assembly 2016, Vienna, Austria, 18-22 April 2016.
- (5). SM54A: Birkeland Currents: Achievements since Iijima and Potemra (1976), and Challenges in Years to Come, Primary Convener: Aoi Nakamizo, Conveners: Natalia Y Ganushkina, Hermann J Opgenoorth, Lawrence J Zanetti, AGU Fall meeting, 12-16 December 2016, San Francisco, CA, USA.
- (6). ST2.1 Open Session on the Magnetosphere (including Julius Bartels Medal Lecture), Conveners: Natalia Ganushkina, Yulia Bogdanova, European Geosciences Union, General Assembly 2015, Vienna, Austria, 12-17 April 2015.
- (7). Discussion leader for Plasmasheet injections session at Inner Magnetosphere Coupling III (IMC III), Los Angeles, California, USA, 23-27 March 2015.
- (8). ST2.1 Open Session on the Magnetosphere (including Julius Bartels Medal Lecture), Convener: Natalia Ganushkina, European Geosciences Union, General Assembly 2014, Vienna, Austria, 27 April – 02 May 2014.
- (9). ST2.1, Open Session on the Magnetosphere (including Julius Bartels Medal Lecture), Convener: Natalia Ganushkina, European Geosciences Union, General Assembly 2013, Vienna, Austria, 07 – 12 April 2013.
- (10). ST2.6/PS9.7 Current Systems in Geospace and Other Planetary Space Environments (co-organized), Convener: Michael Liemohn, Co-Convener: N. Y. Ganushkina, European Geosciences Union, General Assembly 2013, Vienna, Austria, 07 – 12 April 2013.

Linguistic skills

- mother tongue: Russian
- other languages:
 - English, fluent (C2 level in self-assessment in the Europass Language Passport)
 - Finnish, fluent (valtionhallinnon kielitutkinnon todistus, kielitaito: hyvä; C2 level in self-assessment in the Europass Language Passport)
 - French, good (B1 level in self-assessment in the Europass Language Passport)

List of Publications of Dr. Natalia Ganushkina
(as on February 14, 2018)

- Articles in refereed international scientific journals

1. Matéo-Vélez, J.-C., Sicard, A., Payan, D., **Ganushkina, N.**, Meredith, N. P., and Sillanpää, I. (2018). Spacecraft surface charging induced by severe environments at geosynchronous orbit. *Space Weather*, 16. <https://doi.org/10.1002/2017SW001689>
2. Grigorenko, E. E., Dubyagin, S., Malykhin, A. Y., Khotyaintsev, Y. V., Kronberg, E. A., Lavraud, B., and **Ganushkina, N. Y.** (2018). Intense current structures observed at electron kinetic scales in the near-Earth magnetotail during dipolarization and substorm current wedge formation. *Geophysical Research Letters*, 45. <https://doi.org/10.1002/2017GL076303>
3. Sillanpää, I., **N. Yu. Ganushkina**, S. Dubyagin, and J. V. Rodriguez (2017), Electron fluxes at geostationary orbit from GOES MAGED data, *Space Weather*, 15, <https://doi.org/10.1002/2017SW001698>.
4. Haiducek, J. D., Welling, D. T., **Ganushkina, N. Y.**, Morley, S. K., and Ozturk, D. S. (2017), SWMF global magnetosphere simulations of January 2005: Geomagnetic indices and cross-polar cap potential, *Space Weather*, 15, <https://doi.org/10.1002/2017SW001695>
5. **Ganushkina, N. Yu.**, A. Jaynes, M. Liemohn (2017), Space Weather Effects Produced by the Ring Current Particles, *Space Sci. Rev.*, DOI: 10.1007/s11214-017-0412-2.
6. Dubyagin, S., **N. Y. Ganushkina**, I. Sillanpää, and A. Runov (2016), Solar wind-driven variations of electron plasma sheet densities and temperatures beyond geostationary orbit during storm times, *J. Geophys. Res. Space Physics*, 121, doi:10.1002/2016JA022947.
7. Grigorenko, E. E., E. A. Kronberg, P. W. Daly, **N. Y. Ganushkina**, B. Lavraud, J.-A. Sauvaud, and L. M. Zelenyi (2016), Origin of low proton-to-electron temperature ratio in the Earth's plasma sheet, *J. Geophys. Res. Space Physics*, 121, doi:10.1002/2016JA022874.
8. Walker, S. N., A. G. Demekhov, S. A. Boardsen, **N. Y. Ganushkina**, D. G. Sibeck, and M. A. Balikhin (2016), Cluster observations of non-time continuous magnetosonic waves, *J. Geophys. Res. Space Physics*, 121, doi:10.1002/2016JA023287.
9. Boynton, R. J., M. A. Balikhin, D. G. Sibeck, S. N Walker, S. A Billings, and **N. Ganushkina** (2016), Electron flux models for different energies at geostationary orbit, *Space Weather*, 14, doi:10.1002/2016SW001506.
10. Liemohn, M. W., **N. Y. Ganushkina**, R. Ilie, and D. T. Welling (2016), Challenges associated with near-Earth nightside current, *J. Geophys. Res. Space Physics*, 121, 6763–6768, doi:10.1002/2016JA022948.
11. Katus, R. M., M. W. Liemohn, A. M. Keesee, T. J. Immel, R. Ilie, D. T. Welling, **N. Y. Ganushkina**, N. J. Perlongo, and A. J. Ridley (2016), Geomagnetic disturbance intensity dependence on the universal timing of the storm peak, *J. Geophys. Res. Space Physics*, 121, doi:10.1002/2016JA022967.
12. Dubyagin, S., **N. Ganushkina**, M. Liemohn, and M. Kubyshkina (2015), Can ring current stabilize magnetotail during steady magnetospheric convection? *J. Geophys. Res. Space Physics*, 120, doi:10.1002/2015JA022003.

13. Sergeev, V. A., I. A. Chernyaev, V Angelopoulos, and **N. Y. Ganushkina**, Magnetospheric conditions near the equatorial footpoints of proton isotropy boundaries, *Ann. Geophys.*, 33, 1485–1493, 2015.
14. Ilie, R., **N. Ganushkina**, G. Toth, S. Dubyagin, and M. W. Liemohn (2015), Testing the magnetotail configuration based on observations of low altitude isotropic boundaries during quiet times, *J. Geophys. Res. Space Physics*, 120, 10,557–10,573, doi:10.1002/2015JA021858.
15. **Ganushkina, N. Y.**, M. W. Liemohn, S. Dubyagin, I. A. Daglis, I. Dandouras, D. L. De Zeeuw, Y. Ebihara, R. Ilie, R. Katus, M. Kubyshkina, S. E. Milan, S. Ohtani, N. Ostgaard, J. P. Reistad, P. Tenfjord, F. Toffoletto, S. Zaharia, and O. Amariutei, Defining and resolving current systems in geospace, *Ann. Geophys.*, 33, 1369–1402, 2015, doi:10.5194/angeo-33-1369-2015.
16. Sergeev, V. A., S. A. Chernyaeva, S. V. Apatenkov, **N. Y. Ganushkina** and S. V. Dubyagin, Study of the energy-latitude dispersion pattern near the isotropy boundaries of energetic protons, *Ann. Geophys.*, 33, 1059–1070, doi:10.5194/angeo-33-1059-2015, 2015.
17. Ilie, R., M. W. Liemohn, G. Toth, **N. Y. Ganushkina**, and L. K. S. Daldorff (2015), Assessing the role of oxygen on ring current formation and evolution through numerical experiments, *J. Geophys. Res. Space Physics*, 120, 4656–4668, doi:10.1002/2015JA021157.
18. **Ganushkina, N. Y.**, O. A. Amariutei, D. Welling, and D. Heynderickx, (2015), Nowcast model for low-energy electrons in the inner magnetosphere, *Space Weather*, 13, doi:10.1002/2014SW001098.
19. Dubyagin, S., **N. Ganushkina**, M. Kubyshkina, and M. Liemohn (2014), Contribution from different current systems to SYM and ASY midlatitude indices, *J. Geophys. Res. Space Physics*, 119, 7243–7263, doi:10.1002/2014JA020122.
20. Kubyshkina, D. I., D. A. Sormakov, V. A. Sergeev, V. S. Semenov, N. V. Erkaev, I. V. Kubyshkin, **N. Y. Ganushkina**, and S. V. Dubyagin (2014), How to distinguish between kink and sausage modes in flapping oscillations?, *J. Geophys. Res. Space Physics*, 119, 3002–3015, doi:10.1002/2013JA019477.
21. **Ganushkina N. Yu.**, M. Liemohn, O. Amariutei, and D. Pitchford (2014), Low energy electrons (5-50 keV) in the inner magnetosphere, *J. Geophys. Res.*, 119, doi:10.1002/2013JA019304
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23. Dubyagin, S., **N. Ganushkina**, S. Apatenkov, M. Kubyshkina, S.-I. Ohtani, H. Singer, and M. Liemohn (2013), Storm time duskside equatorial current and its closure path, *J. Geophys. Res. Space Physics*, 118, 5616–5625, doi:10.1002/jgra.50512.
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