

DMITRY A. DUEV

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EDUCATION

- 2010 – 2012 **Ph.D. in Astronomy**, Department of Physics, Lomonosov Moscow State University (MSU), Russia.
Specialization: astrometry and celestial mechanics.
- 2004 – 2010 **Specialist in Astronomy (B.Sc. + M.Sc.)**, Department of Physics, MSU, Russia. Specialization: astrometry.
Diploma with honors. GPA: 4.0/4.0.

PROFESSIONAL EXPERIENCE

- 2018 – pres. **Research Scientist**, Astronomy Dept., California Institute of Technology (Caltech), Pasadena, CA, USA.
- 2015 – 2018 **Postdoctoral Scholar in Astronomy**, Astronomy Dept., Caltech, Pasadena, CA, USA.
- 2013 – 2015 **Postdoctoral Researcher & Support Scientist**, Science Ops. and Support & Space Science and Innovative Applications groups, Joint Institute for VLBI ERIC (JIVE), Dwingeloo, The Netherlands.
- 2010 – 2012 **Visiting Researcher**, Space Science and Innovative Applications group, JIVE, The Netherlands.
- 2010 – 2013 **Engineer**, Laboratory of Gravimetry, Sternberg Astronomical Institute (SAI), MSU, Russia.
- 2009 **Researcher**, Dorodnitsyn Computing Centre, Russian Academy of Sciences (CC RAS), Moscow, Russia.
- 2006 – 2008 **Research assistant**, Laboratory of Gravimetry, SAI MSU, Russia.

TECHNICAL SKILLS

Extensive knowledge and experience: algorithms, API design, CI/CD, cloud computing, containerization and orchestration, data processing pipelines, data structures, distributed systems, full-stack web development, GPU & Edge computing, large NoSQL and relational databases, machine and deep learning, networking, testing, version control, *nix operating systems

GitHub profile: <https://github.com/dmitryduev>

EXPERTISE

Astroinformatics, Radio Astronomy, Optical/NIR Astronomy, Machine Learning, Data Science, Software Engineering

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

American Astronomical Society (AAS), International Astroinformatics Association (IAIA)

PUBLICATIONS

150+ publications including 50+ refereed publications in top journals

H-index: 20; 1500+ citations

Discoverer of comet C/2020 T2 (first AI-assisted comet discovery)

Co-discoverer of 100+ near-Earth asteroids

Google Scholar profile: <https://scholar.google.com/citations?user=wkelw9IAAAAJ>

SELECTED PUBLICATIONS

- J. van Roestel, D.A. Duev, A.A. Mahabal et al., The ZTF Source Classification Project: I. Methods and Infrastructure, 2020, The Astronomical Journal (submitted)
- M.W. Coughlin, K. Burdge, D.A. Duev et al., The ZTF Source Classification Project: II. Periodicity and variability processing metrics, 2020, MNRAS (accepted)
- D.A. Duev, A. Mahabal, F.J. Masci et al., Real-bogus classification for the Zwicky Transient Facility using deep learning, 2019, MNRAS, 489, 3582
- D.A. Duev, A. Mahabal, Q.-Z. Ye et al., DeepStreaks: identifying fast-moving objects in the Zwicky Transient Facility data with deep learning, 2019, MNRAS, 486, 4158
- R. Jensen-Clem, D.A. Duev, R. Riddle et al., The performance of the Robo-AO laser guide star adaptive optics system at the Kitt Peak 2.1 m telescope, 2018, The Astronomical Journal 155 (1), 32
- D.A. Duev, S.V. Pogrebenko, G. Cimò et al., Planetary Radio Interferometry and Doppler Experiment (PRIDE) technique: A test case of the Mars Express Phobos fly-by, 2016, Astronomy & Astrophysics, 593, A34
- D.A. Duev, M.V. Zakhvatkin, V.A. Stepanyants et al., RadioAstron as a target and as an instrument: Enhancing the Space VLBI mission's scientific output, 2015, Astronomy & Astrophysics, 573, A99
- D.A. Duev, G.M. Calvés, S.V. Pogrebenko et al., Spacecraft VLBI and Doppler tracking: algorithms and implementation, 2012, Astronomy & Astrophysics, 541, A43

PRESENTATIONS

50+ presentations at prestigious national and international events, including TensorFlow World, ADASS, Astroinformatics, AAS, DPS, EPSC, AGU, EGU, EWASS, IVS, SPIE, NAC, COSPAR, MS3, YERAC, AAI4BDE, SCiMMA conferences/meetings.

SELECTED INVITED TALKS

- 2020/11 Astronomical Data Analysis Software and Systems (ADASS), Granada, Spain (virtual)
- 2019/12 Space Research Institute, Russian Academy of Sciences (IKI), Moscow, Russia
- 2019/04 Space Telescope Science Institute (STScI), Baltimore, MD, USA
- 2017/10 Harvard-Smithsonian Center for Astrophysics (CfA), Cambridge, MA, USA. Host: Peter Veres
- 2016/05 NASA Jet Propulsion Laboratory (JPL), Pasadena, CA, USA. Host: Slava G. Turyshev
- 2016/02 National Radio Astronomy Observatory (NRAO), Socorro, NM, USA. Host: Paul Demorest
- 2015/02 California Institute of Technology, Pasadena, CA, USA. Host: Shrinivas R. Kulkarni
- 2013/10 ASTRON Netherlands Institute for Radio Astronomy, Dwingeloo, The Netherlands. Host: Leonid Gurvits
- 2012/05 ESA European Space Operations Center (ESOC), Darmstadt, Germany. Host: Trevor Morley
- 2011/11 ASTRON Netherlands Institute for Radio Astronomy, Dwingeloo, The Netherlands. Host: Leonid Gurvits

ASTRONOMICAL OBSERVING EXPERIENCE

- Radio, VLBI European VLBI Network (EVN), Very Long Baseline Array (VLBA), Long Baseline Array (LBA)
- Optical, IR Kitt Peak 2.1m (adaptive optics observations with Robo-AO, over 100 nights), Keck-II (NIRC2, ESI)
- Miscellaneous GPS/GLONASS and gravimetric field surveys

SERVICE FOR COMMUNITY

- 2013 – pres. Journal referee for Astronomy and Computing, Astronomy & Astrophysics, MNRAS, Journal of Geodesy, Planetary and Space Science
- 2017 Time allocation committee member for Caltech Optical Observatories
- 2014 Astronomy colloquium organizer at ASTRON/JIVE

LANGUAGES

Russian: native, English: fluent, Dutch: intermediate, German: intermediate