



## Annual Report 2025

### კვლევის შედეგები და პუბლიკაციები Research Output and Publications

#### NATURE ASTRONOMY

**Scope:** NA publishes High-impact research on most significant advances in astronomy, astrophysics, cosmology, and planetary science.

**Publisher:** Springer Nature

**Impact Factor:** 14.3

#### Dynamical dark energy in light of the DESI DR2 baryonic acoustic oscillations measurements

(63 Authors) including Samushia, Lado, Nature Astronomy, 9, 2025.

#### PHYSICAL REVIEW LETTERS

**Scope:** Journal publishes short, high-impact papers on the most significant advances across all areas of physics.

**Publisher:** Americal Physical Society (APS)

**Impact Factor:** 9.0

#### Strong and Weak Dynamo Regimes in Taylor-Couette Flows

Mishra, Ashish, Mamatsashvili, George, and Stefani, Frank. PRL, 135, 2025.

#### JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS

**Scope:** JCAP publishes high-quality research on theoretical and observational aspects of cosmology, astroparticle physics, and related fields, including dark matter, dark energy, early universe physics, and high-energy astrophysical phenomena.

**Publisher:** Institute of Physics (IOP)

**Impact Factor:** 5.9

#### Enhancing DESI DR1 full-shape analyses using HOD-informed priors

(62 Authors) including Samushia, Lado, JCAP, 2025(04), 049.

#### A joint analysis of 3D clustering and galaxy $\times$ CMB-lensing cross-correlations with DESI DR1 galaxies

(63 Authors) including Samushia, Lado, JCAP, 2025(03), 044.

#### Full-Shape analysis of the power spectrum and bispectrum of DESI DR1 LRG and QSO samples

(67 Authors) including Samushia, Lado, JCAP, 2025(03), 055.

#### The construction of large-scale structure catalogs for the Dark Energy Spectroscopic Instrument

(172 Authors) including Samushia, Lado, JCAP, 2025(01), 125.

#### DESI 2024 V: Full-Shape galaxy clustering from galaxies and quasars



(200+ Authors) *including* Samushia, Lado, *JCAP*, 2025(08), 091.

**DESI 2024 VII: cosmological constraints from the full-shape modeling of clustering measurements**

(200+ Authors) *including* Samushia, Lado, *JCAP*, 2025(03), 056.

**DESI 2024 II: sample definitions, characteristics, and two-point clustering statistics**

(200+ Authors) *including* Samushia, Lado, *JCAP*, 2025(02), 017.

**DESI 2024 III: baryon acoustic oscillations from galaxies and quasars**

(200+ Authors) *including* Samushia, Lado, *JCAP*, 2025(03), 073.

**DESI 2024 VI: cosmological constraints from the measurements of baryon acoustic oscillations**

(200+ Authors) *including* Samushia, Lado, *JCAP*, 2025(03), 070.

**DESI 2024 IV: Baryon Acoustic Oscillations from the Lyman alpha forest**

(200+ Authors) *including* Samushia, Lado, *JCAP*, 2025(03), 064.

## ASTRONOMY AND ASTROPHYSICS

**Scope:** *A&A Publishes original research in astronomy and astrophysics, including observational and theoretical studies of stars, galaxies, cosmology, interstellar matter, planetary systems, and instrumentation.*

**Publisher:** EDP Sciences

**Impact factor:** 6.1

**Magnetohydrodynamic shallow water equations with the alpha effect: Rossby-dynamo waves in solar–stellar tachoclines**

Zaqarashvili, T. V., Dikpati, M., and Gilman, P. A., *A&A*, 703, A190, 2025.

**The nuclear jet and core of TXS 0506+056 could be gravitationally lensed**

Britzen, S., Böttcher, M., Kun, E., Pashchenko, I. N., Larchenkova, T., Lyskova, N., Jaron, F., Zajaček, M., Caramete, L.-I., Caramete, A., Pîslan, F.-C., and Kurtanidze, O., *A&A*, 695, A103, 2025.

**Contact binary asteroid (153201) 2000 WO<sub>107</sub>: Rotation, shape model, and density**

Krugly, Yuriy, Golubov, Olexiy, Kyrylenko, Ihor, Lipatova, Veronika, Belskaya, Irina, Shevchenko, Vasilij, Slyusarev, Ivan, Inasaridze, Raguli, Ehgamberdiev, Shuhrat, Ivanova, Oleksandra, Husárik, Marek, Karpov, Sergey, and Hestroffer, Daniel, *A&A*, 702, A170, 2025.

**Synthesizing Sun-as-a-star flare spectra from high-resolution solar observations**

(25 Authors) *including* Kuridze, D., Vashalomidze, Z., Zaqarashvili, T. V., *A&A*, 700, A275, 2025.

**AT2021uey: A planetary microlensing event outside the Galactic bulge**

(56 Authors) *including* Kulijanishvili, V., Kvernadze, T., *A&A*, 697, A57, 2025.

**Multi-wavelength picture of the misaligned BL Lac object 3C 371**

(56 Authors) *including* Kurtanidze, S. O., Ivanidze, R. Z., Kimeridze, G. N., Kurtanidze, O. M., Nikolashvili, M. G., Sigua, L. A., *A&A*, 693, A196, 2025.

**Multiband optical variability on diverse timescales of the blazar Ton 599 from 2011 to 2023**

(74 Authors) *including* Kurtanidze, O. M., Nikolashvili, M. G., Kurtanidze, S. O., Ivanidze, R., *A&A*, 703, A259, 2025.



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## THE ASTROPHYSICAL JOURNAL

**Scope:** *ApJ publishes original research in astronomy and astrophysics, covering observational and theoretical studies of stars, galaxies, cosmology, high-energy astrophysics, interstellar medium, and planetary systems.*

**Publisher:** Institute of Physics (IOP)

**Impact factor:** 5.4

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### **The Striated Solar Photosphere Observed at 0.''03 Resolution**

Kuridze, David, Wöger, Friedrich, Uitenbroek, Han, Rempel, Matthias, Tritschler, Alexandra, Rimmele, Thomas, Fischer, Catherine, and Steiner, Oskar. *ApJ*, 985, L23, 2025.

### **Toward Understanding the Phenomenon of Pulsar Polarization in Partially Screened Vacuum Gap Model**

Mitra, Dipanjan, Melikidze, George I., and Basu, Rahul. *ApJ*, 992, 159, 2025.

### **Characterizing the Nature of Periodic Amplitude Modulation in Pulsars**

Basu, Rahul, Mitra, Dipanjan, and Melikidze, George I., *ApJ*, 992, 105, 2025.

### **Polarization Properties of Energetic Pulsars at Meterwavelengths**

Mitra, Dipanjan, Basu, Rahul, and Melikidze, George I., *ApJ*, 987, 119, 2025.

### **Pulsar Coherent Radio Emission from Solitons: Average Emission Properties**

Basu, Rahul, Mitra, Dipanjan, Melikidze, George I., and Maciesiak, Krzysztof. *ApJ*, 985, 247, 2025.

### **ODIN: Probing the LAE Ly $\alpha$ Luminosity Function across Cosmic Time and Different Environments**

(55 Authors) *including* Samushia, Lado, *ApJ* 995, 126, 2025.

### **EP240801a/XRF 240801B: An X-Ray Flash Detected by the Einstein Probe and the Implications of Its Multiband Afterglow**

(96 Authors) *including* Inasaridze, Raguli, *ApJ* 988, L34, 2025.

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## THE ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES

**Scope:** *APJS is the companion to the APJ, publishing extensive data sets, catalogs, surveys, and detailed methods papers that support and complement primary research articles.*

**Publisher:** Institute of Physics (IOP)

**Impact factor:** 8.5

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### **Multiband Optical Variability of the Blazar 3C 454.3 on Diverse Timescales**

(82 Authors) *including* Kurtanidze, S. O., Ivanidze, R., Kimeridze, G. N., Kurtanidze, O. M., Nikolashvili, M. G., Sigua, L. A., *ApJS*, 276, 1, 2025.



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## MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY

**Scope:** *MNRAS Publishes original research in astronomy and astrophysics, including observational and theoretical studies of galaxies, cosmology, stellar evolution, high-energy astrophysics, and planetary science.*

**Publisher:** Oxford University Press

**Impact factor:** 4.7

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### Long-term multiwavelength observations of 1ES 1218+304: physical implications of the flux and spectral variability

Kapanadze, B., Gurchumelia, A., and Aller, MNRAS, 539, 2806, 2025.

### Maximum possible energies of electrons accelerated in the magnetospheres of rotating black holes

Nikuradze, N. and Osmanov, Z. N., MNRAS, 541, 3445, 2025.

### Is the symbiotic recurrent nova T CrB late? Recent photometric evolution and comparison with past pre-outburst behaviour

(49 Authors) *including* Kvernadze, Teimuraz, MNRAS 541, L41, 2025.

## PHYSICAL REVIEW D

**Scope:** *PRD publishes original research in high-energy physics, gravitation, cosmology, quantum field theory, and related areas, including both theoretical and experimental studies.*

**Publisher:** American Physical Society (APS)

**Impact factor:** 5.3

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### Connecting inflation to the NANOGrav 15-year dataset via massive gravity

Kenjale, Ved and Kahniashvili, Tina, PRD, 111, 083041, 2025.

### Limits on the ejecta mass during the search for kilonovae associated with neutron star-black hole mergers: A case study of S230518h, GW230529, S230627c and the low-significance candidate S240422ed

(84 Authors) *including* Kochiashvili, N., PRD, 11, 043015, 2025.

### Validation of the DESI DR2 measurements of baryon acoustic oscillations from galaxies and quasars

(200+ Authors) *including* Samushia, Lado, Physical Review D, 112, 063002, 2025.

### Measurements of baryon acoustic oscillations and cosmological constraints

(200+ Authors) *including* Samushia, Lado, Physical Review D, 112, 063001, 2025.

### Constraints on neutrino physics from DESI DR2 BAO and DR1 full shape

(200+ Authors) *including* Samushia, Lado, Physical Review D, 112, 083005, 2025.

### Extended dark energy analysis using DESI DR2 BAO measurements

(200+ Authors) *including* Samushia, Lado, Physical Review D, 112, 103003, 2025.

### Model-independent measurement of the matter-radiation equality scale in DESI 2024

(200+ Authors) *including* Samushia, Lado, Physical Review D, 112, 023001, 2025.



## ATMOSPHERE

**Scope:** *Atmosphere publishes original research on atmospheric science, including atmospheric physics, chemistry, dynamics, climate processes, weather, and interactions between the atmosphere and other components of the Earth system.*

**Publisher:** MDPI

**Impact factor:** 3.2

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### **The Role of Wind Velocity, Wind Shear, and Electric Fields in the Formation of Sporadic E (Es)**

Didebulidze, Goderdzi G., Dalakishvili, Giorgi, and Todua, Maya. *Atm.* 16, 214, 2025.

## SYMMETRY

**Scope:** *Symmetry publishes research on symmetry principles and their applications across physics, mathematics, and related disciplines, including fundamental interactions, cosmology, field theory, complex systems, and interdisciplinary studies involving symmetry and invariance.*

**Publisher:** MDPI

**Impact factor:** 2.9

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### **Can the Solar Atmosphere Generate Very-High-Energy Cosmic Rays?**

Osmanov, Zaza N., Kuridze, D., and Mahajan, Swadesh M.. *Symmetry*, 17, 189, 2025.

## ASTROPHYSICS AND SPACE SCIENCE

**Scope:** *Ap&SS publishes original research in astronomy and astrophysics, including theoretical and observational studies of stars, galaxies, cosmology, high-energy astrophysics, space science, and related fundamental processes.*

**Publisher:** Springer Nature

**Impact factor:** 2.7

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### **Pair creation in the vortex-driven magnetic fields of black holes**

Osmanov, Zaza N.. *Ap&SS*, 370, 34, 2025.

### **Long-term Fermi observations of Mrk 421: clues for different non-stationary processes**

Kapanadze, B., Gurchumelia, A., and Aller, M.. *Ap&SS*, 370, 52, 2025.



## ADVANCES IN SPACE RESEARCH

**Scope:** *AdSR publishes original research on space science and technology, including astrophysics, planetary science, heliophysics, space plasma physics, Earth observation, and space exploration, with strong emphasis on interdisciplinary studies and applications.*

**Publisher:** Elsevier

**Impact factor:** 2.61

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### **Cyclic variations in the solar differential rotation pattern based on the H-alpha filament data (1957–1993)**

Mdzinarishvili, Tengiz, Chargeishvili, Bidzina, and Japaridze, Darejan. *AdSR*, 75, 2143, 2025.

## JOURNAL OF ATMOSPHERIC AND SOLAR-TERRESTRIAL PHYSICS

**Scope:** *JASTP publishes original research on the physics of the Earth's atmosphere and its interaction with the Sun, including solar-terrestrial relations, space weather, ionosphere and magnetosphere dynamics, upper atmosphere processes, and coupling between different regions of the geospace environment.*

**Publisher:** Elsevier

**Impact factor:** 2.5

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### **The importance of electric field or/and neutral wind in formation and prediction of sporadic E (Es) at the equatorial and mid-latitude regions**

Didebulidze, Goderdzi G., Dalakishvili, Giorgi, Todua, Maya, and Toriashvili, Lekso. *JASP*, 272, 106012, 2025.

## SOLAR PHYSICS

**Scope:** *Solar Physics publishes original research on the Sun and solar phenomena, including solar atmosphere, magnetic fields, solar activity, heliophysics, and Sun-Earth interactions, based on both observational and theoretical studies.*

**Publisher:** Springer Nature

**Impact factor:** 2.4

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### **Adding Further Pieces to the Synchronization Puzzle: QBO, Bimodality, and Phase Jumps**

Stefani, F., Horstmann, G. M., Mamatsashvili, G., and Weier, T., *Sol. Phys.* 300, 15, 2025.



## PLANETARY AND SPACE SCIENCE

**Scope:** *PSS publishes original research on planetary systems, including the physics, chemistry, and geology of planets, moons, small bodies, and their atmospheres, as well as space physics, solar system evolution, and comparative planetology.*

**Publisher:** Elsevier

**Impact factor:** 1.7

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### Opposition effect of M-type asteroids

Slyusarev, I. G., Shevchenko, V. G., Belskaya, I. N., Krugly, Yu N., Chiorny, V. G., Mikhalchenko, O. I., Inasaridze, R. Ya., Ayvaczian, V. V., Zhuzhunadze, V., Reva, I. V., Omarov, Ch T., Kwiatkowski, T., Oszkiewicz, D., Troianskyi, V., Skiff, B. A., Maryeva, O., Karpov, S., and Donchev, Z.. PSS, 260, 105884, 2025.

## ASTROPHYSICS

**Scope:** *Astrophysics publishes original research in astronomy and astrophysics, including observational and theoretical studies of stars, galaxies, cosmology, high-energy processes, and space physics.*

**Publisher:** Springer

**Impact factor:** 0.7

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### Doppler Velocity and Spectral Line Width Variations in Solar Spicules and Prominences

Sikharulidze, M., Khutsishvili, D., Khutsishvili, E., Kakhiani, V., and Tsinamdzgvrishvili, T., Astrophysics, 68, 69, 2025.

## INTERNATIONAL JOURNAL OF ASTRONOMY AND ASTROPHYSICS

**Scope:** *This journal publishes research in astronomy and astrophysics, including observational and theoretical studies of celestial objects, cosmology, space science, and related topics in planetary and stellar physics.*

**Publisher:** Scientific Research Publishing (SCIRP)

**Impact factor:** N/A

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### The Possibility for Panspermia in the Galaxy by Means of Planetary Dust Grains

Osmanov, Zaza N.. International Journal of Astronomy and Astrophysics, 15, 1, 2025.



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## AZERBAIJANI ASTRONOMICAL JOURNAL

**Scope:** *This journal publishes research in astronomy and astrophysics, including observational studies, theoretical investigations, and instrumentation, with particular emphasis on regional and international collaborations in astronomical research.*

**Publisher:** Institute of Astronomy of the Azerbaijan National Academy of Sciences

**Impact factor:** N/A

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### Two Neutron Star-Black Hole Mergers Observed by the Ligo-Virgo Collaboration

Vidadi, Z., Kochiashvili, N., and Ismailov, N. Z.. Azerbaijani Astronomical Journal, 20, 15, 2025.

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## COMMUNICATIONS OF THE BYURAKAN ASTROPHYSICAL OBSERVATORY

**Scope:** *Journal publishes original research in astronomy and astrophysics, as well as conference proceedings.*

**Publisher:** Springer

**Impact factor:** 0.7

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### Vortex-Driven Magnetospheric Heating in Primordial Black Holes

Osmanov, Z. N.. Comm. BA, 72, 55, 2025.

### Differential Rotation of F G K M Main-Sequence Stars

Tabatadze, A. and Kukhianidze, V., Comm. BA, 72, 61, 2025.

### Observations of the selected astronomical objects using Polarization-Holographic Imaging Stokes Polarimeter

Kurkhuli, G., Kvernadze, T., Kakauridze, G., and Kilosanidze, B., Comm. BA, 72, 67, 2025.

### Machine Learning Methods used to Distinguish Open Clusters from Asterisms using Gaia DR3 data

Kapanadze, G., Kvernadze, T., Kvaratskhelia, O., Kurkhuli, G., and Kozlov, V., Comm. BA, 72, 73, 2025.

### Some of Extreme Eclipsing Binaries among Hot B Stars

Kvernadze, T., Chargeishvili, K., Kvaratskhelia, O., Kurkhuli, G., Kozlov, V., and Kapanadze, G., Comm. BA, 72, 81, 2025.

### Multi-period variations during Solar Cycles 23–24

Tsabadze, N., Zaqarashvili, T. V., and Ramishvili, G., Comm. BA, 72, 87, 2025.

### Observation of Near Earth Asteroids (NEA) at the Abastumani Astrophysical Observatory

Ayvazyan, V., Inasaridze, R., Krugli, Yu., and Zhuzhunadze, D., Comm. BA, 72, 93, 2025.



## CONFERENCE PROCEEDINGS

**Scope:** *Conference Proceedings publish contributions presented at scientific meetings, conferences, and workshops, covering a wide range of topics depending on the event, including preliminary results, emerging research, and specialized studies across disciplines.*

**Publisher:** *Varies by conference*

**Impact factor:** N/A

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### 105th Annual AMS Meeting 2025

*New Orleans, Louisiana, USA, 12–16 January 2025*

#### **Advancing Space Weather Forecasting Capability with CCMC Tools and Systems**

(32 Authors) *including* Taktakishvili, Aleksandre, 105th Annual AMS Meeting 105, J1.4, 2025.

### EPSC-DPS Joint Meeting 2025

*Helsinki, Finland, 7–12 September 2025*

#### **Preliminary results of the long-term program on photometry and polarimetry of main-belt and near-Earth asteroids**

(20 Authors) *including* Inasaridze, Raguli, Ayvazian, Vova, EPSC-DPS Joint Meeting 2025.

### 246th Meeting of the American Astronomical Society

*Anchorage, Alaska, USA, 8–12 June 2025*

#### **On the Feasibility of Detecting the Graviton Mass in PTAs: A Novel Approach from the Massive Dispersion Relation**

Choi, Chris and Kahniashvili, Tina. 246th Meeting AAS, 246, 302.05, 2025.

#### **Comparing DKIST and IAG observations of Balmer lines with modelled spectra**

Criscuoli, Serena, Kowalski, Adam, Case, Tyler, Schad, Tom, Da Silva Santos, Joao M., Coddington, Odele, and Kuridze, David. 246th Meeting AAS, 246, 214.06, 2025.

#### **The striated solar photosphere observed at 0."03 resolution**

Kuridze, David, Woeger, Friedrich, Uitenbroek, Han, Rempel, Matthias, Tritschler, Alexandra, Rimmele, Thomas, Fischer, Catherine, and steiner, oscar. 246th Meeting AAS, 246, 214.07, 2025.

#### **Chromospheric Magnetic Field Extrapolations Unveil the Magnetic Topology of Solar Active Region Filament**

Jarolim, Robert, Da Silva Santos, Joao M., Rempel, Matthias, Korsos, Marianna, Erdélyi, Robertus, Veronig, Astrid, Soos, Szabolcs, and Kuridze, David. 246th Meeting AAS, 246, 214.08, 2025.



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## EGU General Assembly Conference Abstracts

*Vienna, Austria, 27 April – 2 May 2025*

### **Building Heliophysics Community Portal for Great Storms**

Kuznetsova, Maria, Temmer, Manuela, Kozyra, Janet, Bisi, Mario, Zheng, Yihua, Mays, Leila, Rastaetter, Lutz, Taktakishvili, Aleksandre, Wiegand, Chiu, and Reiss, Martin. EGU General Assembly Conf. Abstracts, EGU25, 2025.

## **XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories**

*Abastumani, Georgia, 23-27 September 2024*

### **On theoretical and observational appearances of one-sided jets in AGN**

Kobaidze, D., Gurchumelia, A., and Chagelishvili, G., XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

### **Competition between nonlinear radial and transverse cascades in the dynamics of two-dimensional anticyclones in plane shear flows**

Burdiladze, L. and Chagelishvili, G., XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

### **Overreflection of Alfvénic wave modes (modified by Keplerian rotation) in astrophysical disks at weak azimuthal magnetic field**

Kavtaradze, M. and Chanishvili, R., XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

### **Astrophysical Implications of Magnetically Anisotropic Dilute Plasma Flows**

Tevzadze, A. G., XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

### **Cosmological Mass Varying Neutrino model**

Avsajanishvili, O., XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

### **Solar Activity and Influenza pandemics**

Oghrapishvili, N., Japaridze, D., and Maghradze, D., XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

### **Long-term Swift and multiwavelength observations of two TeV-detected blazars with unknown redshifts**

Kapanadze, S., XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

### **New candidate exoplanets around the late B stars in the direction of Galactic anticenter**

Kvernadze, T., Chargeishvili, K., Kvaratskhelia, O., and Kurkhuli, G., XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

### **The collision of the artificial satellite DART (Double Asteroid Redirection Test) with Dimorphos and subsequent changes**

Inasaridze, R., Ayyazian, V., and Zhuzhunadze, V., XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

### **Life and work of Professor Viktor Japiashvili**



Kvaratskhelia, O., XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

### **The Georgian National Astrophysical Observatory: Legacy, Modernization, and the Future of Astronomy and Astrophysics Research**

Tevezadze, A. G. and Chanishvili, R. G., XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

### **Proceedings of the XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories dedicated to Viktor Japiashvili's 100th anniversary**

Chargeishvili, B., Tevezadze, A., and Chanishvili, R.. XVI Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories, 2025.

## **ARXIV E-PRINTS**

*Scope: arXiv e-prints is an open-access repository for preprints in physics, astronomy, mathematics, computer science, and related fields, enabling rapid dissemination of research results prior to peer review and journal publication.*

**Publisher:** Cornell University Library

**Impact factor:** N/A

### **Do Pulsar Timing Datasets Favor Massive Gravity?**

Choi, Chris and Kahnishvili, Tina. arXiv e-prints, arXiv:2507.02059, 2025.

### **Primordial magnetic field from chiral plasma instability with sourcing**

Gurgenidze, Murman, Long, Andrew J., Roper Pol, Alberto, Brandenburg, Axel, and Kahnishvili, Tina. arXiv e-prints, arXiv:2512.09177, 2025.

### **Forward cascade of large-scale primordial magnetic fields during structure formation**

Abramson, Molly, Clarke, Emma, Kahnishvili, Tina, Mandal, Sayan, Mtchedlidze, Salome, and Schober, Jennifer. arXiv e-prints, arXiv:2508.00694, 2025.

### **The evolution of chromospheric quiet-sun bright points during their lifetime**

Humphries, Llŷr, Morgan, Huw, and Kuridze, David. arXiv e-prints, arXiv:2503.01234, 2025.

### **The striated solar photosphere observed at 0."03, resolution**

Kuridze, D., Wöger, F., Uitenbroek, H., Rempel, M., Tritschler, A., Rimmele, T., Fischer, C., and Steiner, O., arXiv e-prints, arXiv:2502.04567, 2025.

### **Reappraising the Elatina series: Solar dynamo clocking and inference of orbital periods**

Stefani, F., Weier, T., Horstmann, G. M., and Mamatsashvili, G. arXiv e-prints, arXiv:2501.09876, 2025.

### **Vortex driven Schwinger pair creation in the magnetosphere of SgrA\***

Osmanov, Zaza N. arXiv e-prints, arXiv:2504.06789, 2025.

### **Modified light-cylinder and centrifugal acceleration in Schwarzschild geometry**

Kurtskhalia, Nikoloz, Maltsev, Nikolai, and Osmanov, Zaza N. arXiv e-prints, arXiv:2505.02345, 2025.

### **Implications of Photon Mass: Vortextrap Magnetization of Black Holes**

Dvali, Gia, Osmanov, Zaza N., and Zantedeschi, Michael. arXiv e-prints, arXiv:2506.03456, 2025.



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**Earth as a potential source of life For Europa's subsurface ocean**

Osmanov, Zaza N. arXiv e-prints, arXiv:2503.07891, 2025.

**Megastructures of type-III civilizations orbiting galaxies**

Osmanov, Zaza N. arXiv e-prints, arXiv:2507.05555, 2025.

**On Lorentz Variability of Magnetically Dominated Relativistic Outflows**

Berezhiani, V. I., Shatashvili, N. L., and Tevzadze, A. G. arXiv e-prints, arXiv:2502.06789, 2025.

**Some results of CCD-photometry of variable stars at the Astronomical Institute of Karazin Kharkiv National University**

Shevchenko, V. G., Danylko, D. O., Slyusarev, I. G., and Chigladze, R. A. arXiv e-prints, arXiv:2501.04567, 2025.

**NASA/NOAA MOU Annex Final Report: Evaluating Model Advancements for Predicting CME Arrival Time**

Mays, M. L., MacNeice, P. J., Taktakishvili, A., Wiegand, C. P., Merka, J., Adamson, E. T., Pizzo, V. J., Biesecker, D. A., Marble, A. R., Odstrcil, D., Henney, C. J., Arge, C. N., Jones, S. I., and Wallace, S. arXiv e-prints, arXiv:2504.11223, 2025.

**Baryon fraction from the BAO amplitude: a consistent approach to parameterizing perturbation growth**

(60 Authors) including Samushia, L., arXiv e-prints, arXiv:2503.10101, 2025.

**Direct Measurement of Galaxy Assembly Bias using DESI DR1 Data**

(60 Authors) including Samushia, L., arXiv e-prints, arXiv:2502.09090, 2025.

**A measurement of  $\delta H_0$  from DESI DR1 using energy densities**

(60 Authors) including Samushia, L., arXiv e-prints, arXiv:2502.09091, 2025.

**Fiducial-Cosmology-dependent systematics for the DESI 2024 Full-Shape Analysis**

(69 Authors) including Samushia, L., arXiv e-prints, arXiv:2501.12345, 2025.

**Frequentist Cosmological Constraints from Full-Shape Clustering Measurements in DESI DR1**

(57 Authors) including Samushia, L., arXiv e-prints, arXiv:2502.09092, 2025.

**Combined tracer analysis for DESI 2024 BAO**

(69 Authors) including Samushia, L., arXiv e-prints, arXiv:2502.09093, 2025.

**Data Release 1 of the Dark Energy Spectroscopic Instrument**

(200+ Authors) including Samushia, L., arXiv e-prints, arXiv:2502.09094, 2025.



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## COMMUNICATIONS AND DATA CATALOG CONTRIBUTIONS

*Scope: Category includes scientific outputs such as rapid communications, alerts, observational reports, and contributions to astronomical data catalogs and repositories, enabling timely dissemination of results and supporting community access to observational data and derived products.*

**Impact factor:** N/A

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### GRB Coordinates Network

*Rapid alerts and follow-up reports on gamma-ray bursts*

#### **GRB 251222A: AbAO optical observations**

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## Transient Name Server AstroNote

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## CUMULATIVE STATISTICS

RESEARCH OUTPUT	
<b>PEER-REVIEWED PUBLICATIONS</b> <i>(Publications with Impact Factor)</i>	<b>46</b>
<b>CONFERENCE PROCEEDING</b> <i>(Including other publications without impact factor)</i>	<b>28</b>
<b>PREPRINTS</b> <i>(ArXiv manuscripts)</i>	<b>21</b>
<b>COMMUNICATIONS AND DATA CONTRIBUTIONS</b> <i>(Rapid Alerts, Telegrams, Database Contributions)</i>	<b>39</b>
<b>CUMULATIVE NUMERICAL INDICATOR</b>	<b>134</b>