

## Curriculum Vitae

### 1. Full Name:

Japaridze Darejan

### 2. Educational background:

1998 - Ph.D., Abastumani Astrophysical Observatory

1977 - M.S., Tbilisi State University, Faculty of Mechanics and Mathematics (Astronomy)

### 3. Institutional affiliations:

2015 – present: Associate Professor, Ilia State University;

2010 – 2015: Assistant Professor, Ilia State University;

2020 – present - Scientific Researcher, Georgian E. Kharadze National Astrophysical Observatory;

2019 - 2020 წწ. - Researcher, Georgian E. Kharadze National Astrophysical Observatory;

2015 - 2019: Consultant, E. Kharadze Abastumani Astrophysical Observatory, Ilia State University;

2013 - 2014: Researcher, E. Kharadze Abastumani Astrophysical Observatory, Ilia State University;

2007 - 2013: Associate Researcher, E. Kharadze Abastumani Astrophysical Observatory, Ilia State University;

2003 – 2007: Senior Scientific Researcher, Georgian National Astrophysical Observatory;

1992 - 2003: Scientific Researcher, Abastumani Astrophysical Observatory;

1986 - 1992: Junior Scientific Researcher, Abastumani Astrophysical Observatory;

1982 - 1986: Assistant, Abastumani Astrophysical Observatory;

### 4. Scientific publications:

1. D. A. Maghradze, B. B. Chargeishvili†, **D. R. Japaridze**, N. B. Oghrapishvili, and K. B. Chargeishvili, Long-term variation of coronal holes latitudinal distribution, Communications of BAO, Vol. 70, Issue 1, 27-34, 2023.
2. **D. Japaridze**, N. Oghrapishvili, Space Factors of Influenza Pandemics, Space Factors of Influenza Pandemics Georgian Scientists, Vol. 5 Issue 4, 2023.
3. Maghradze, D. A., Chargeishvili, B. B., **Japaridze, D. R.**, Oghrapishvili, N. B., Chargeishvili, K. B., Long-term variation of coronal holes latitudinal distribution, Monthly Notices of the Royal Astronomical Society, Volume 511, Issue 4, 5217–5224, 2022.
4. **Japaridze D.**, Dumbadze G., Ramishvili G., Chargeishvili B., Study of the Periodicities of the Solar Differential Rotation, Astrophys., 63, 2, 282-287, 2020.
5. Tsinamdzgvrishvili, T., Shergelashvili, B., Chargeishvili, B., Mghebrishvili, I., Mdzinarishvili, T.; **Japaridze, D.**, Regular and Oscillatory Motion of Coronal Bright Points, Astrophysics, Volume 63, Issue 3, 430-439, 2020.
6. T.G. Mdzinarishvili, M.M. Shergelashvili, **D.R. Japaridze**, K.B. Chargeishvili, A.G. Kosovichev, S. Poedts, Determination of the Solar Rotation parameters via orthogonal polynomials, Advances in Space Research 65, Issue 7, 1843-1851, 2020.
7. D.A. Maghradze, B.B. Chargeishvili, **D.R. Japaridze**, N. B. Oghrapishvili, T.G. Mdzinarishvili, K.B. Chargeishvili, Latitudinal Distribution of Solar Coronal Active Regions, Advances in Space Research, Volume 65, Issue 4, 1321-1331, 2020. Chargeishvili, B.B., Maghradze, D.A., Japaridze, D.R., Oghrapishvili, N. B., Mdzinarishvili, T.G., Chargeishvili, K.B., Shergelashvili, B. M., Variation of Coronal Holes Latitudinal Distribution: Correction of Limb Brightening of EUV Coronal Images, Advances in Space Research, Volume 64, Issue 2, 491-503, 2019.
8. Salukvadze, G.; Ograpishvili, N.; Maghradze, D.; **Japaridze, D.**; Mdzinarishvili, T.; Chargeishvili, B.; Gachechiladze, T.; Makandarashvili, Sh., Statistical Study of Solar Radio Bursts at a Frequency of 210 MHz, Astrophysics, Volume 61, Issue 3, pp.347-353, 2018.

9. Oghrapishvili, N. B.; Bagashvili, S. R.; Maghradze, D. A.; Gachechiladze, T. Z.; **Japaridze, D. R.**; Shergelashvili, B. M.; Mdzinarishvili, T. G.; Chargeishvili, B. B., Study of the solar coronal hole rotation, *Advances in Space Research*, Volume 61, Issue 12, p. 3039-3050, 2018.
10. Bagashvili, Salome R.; Shergelashvili, Bidzina M.; **Japaridze, Darejan R.**; Kukhianidze, Vasil; Poedts, Stefaan; Zaqarashvili, Teimuraz V.; Khodachenko, Maxim L.; De Causmaecker, Patrick, Evidence for Precursors of the Coronal Hole Jets in Solar Bright Points *The Astrophys. J. Letters*, 855, 2, article id. L21, 6 pp., 2018.
11. Bagashvili S. R., Shergelashvili B.M., **Japaridze D.R.**, Chargeishvili B.B., Kosovichev A.G., Kukhianidze V., Ramishvili G., Zaqarashvili T.V., Poedts S., Khodachenko M.L., De Causmaecker P., "Statistical properties of coronal hole rotation rates: are they linked to the solar interior?" *A&A*, Volume 603, id. A134, 8 pp. 2017.
12. N. Ograpishbili, D.Maghradze, SH.Makandarishvili, **D.Japaridze**, "Monitoring of Solar Activity in Radio Frequency Range." *Astronomy & Astrophysics (Caucasus)*, v.2, p.59-73, 2016.
13. Makandarashvili, Sh., Oghrapishvili, N., **Japaridze, D.**, Maghradze, D., Relationship of Solar Radio Emission at  $\lambda=1.43\text{m}$  and Optical Processes in the Sun, *Astrophysics*, Volume 59, Issue 3, pp.383-388, 2016.
14. **Japaridze, D. R.**, Chargeishvili, B. B., Study of Variations in Solar Differential Rotation Based on Compact Magnetic Features and Hydrogen H $\alpha$  Filaments, *Astrophysics*, Volume 59, Issue 3, pp.389-397, 2016.
15. B.B.Chargeishvili, **D.R.Japaridze**, Axisymmetric and non-axisymmetric modulated MHD waves in magnetic flux tubes, *New Astronomy*, 43, 37-41, 2016.
16. **D. R. Japaridze**, S. R. Bagashvili, B. M. Shergelashvili, B. B. Chargeishvili, Investigation of Solar Rotation Using Coronal Holes, *Astrophysics*, Vol. 58, No. 4, 575-579, 2015.
17. Chargeishvili B., Gigolashvili M. Sh., **Japaridze D.**, Kapanadze, N., On linear Modulated Waves in Spicules and Peripheral Regions of Supergranules, *Astrophysics*, Volume 57, Issue 4, 570-582, 2014.
18. Gigolashvili M. Sh., Ograpishvili N., **Japaridze D.**, Makandarashvili Sh., Chargeishvili B., Maghradze, D., Chromospheric Flares and 210 MHz Radio Emission, *Astrophysics*, Volume 57, Issue 2, 408-423, 2014.
19. Gigolashvili M. Sh., **Japaridze D. R.**, Chargeishvili B. B., Solar Differential Rotation at the Moment of Polarity Reversal of the Solar Magnetic Field, *Astrophysics*, Volume 57, Issue 2, 296-303, 2014.
20. M. S. Gigolashvili, **D. R. Japaridze** and T. G. Mdzinarishvili, Investigation of N-S asymmetry of solar differential rotation by various patterns for solar cycles 20 and 21, *Adv. Space Res.* 52, 2122, 2013.
21. Gigolashvili, M. S.; **Japaridze, D. R.**; Kukhianidze, V. J., Investigation of the Differential Rotation by H $\alpha$  Filaments and Long-Lived Magnetic Features for Solar Activity Cycles 20 and 21, *Solar Physics*, 282, 51-65, 2013.
22. Alania M., Salukvadze T., Khelaia E., Kapanadze N., Japaridze D., Features of Long-Term Changes of the Air Temperature in Tbilisi, Georgia, *Transaction Iv. Javakhsishvili State University, Vakhushiti Bagrationi Institute of Geography, International scientific conference "Environment and Global Warming"*, vol., 3 (82), 140-146, 2011.
23. M. Gigolashvili, **D. Japaridze**, T. Mdzinarishvili, Statistical Study of the North-Southern Asymmetry of the Differential Rotation Based on various Solar Structures During 1966-1985, *Astrophysics*, 54, 4, 593-602, 2011.
24. **Japaridze, D. R.**; Gigolashvili, M. S.; Kukhianidze, V. J., Investigation of the Solar Differential Rotation of Compact Magnetic Elements for 1966 – 1986, *Solar Physics*, **255**, 203-210, 2009.
25. **Japaridze, Darejan**; Gigolashvili, Marina; Kukhianidze, Vasili, Solar Differential Rotation of Compact Magnetic Elements and Polarity Reversal of the Sun, *IAUS*, 257-173, 2009.

26. Киладзе Р. И., **Джапаридзе Д. Р.**, Капанадзе Н. И., Салуквадзе Т. Г., Хелая Е. И., Салуквадзе М. Т., Эмпирическая связь между радиолокационной отражаемостью ( $Z$ ) и интенсивностью атмосферных осадков ( $I$ ) мультячейковых конвективных облаков, Труды Института Геофизики им. М. Нодиа, т. LXI, 187-190, 2009.
27. Салуквадзе Т. Г., Хелая Е. И., Салуквадзе М. Т., Киладзе Р. И., **Джапаридзе Д. Р.**, Капанадзе Н. И., Исследование  $Z$ - $I$  эмпирического соотношения для суперячейковых конвективных облаков теплого сезона года кахетинского региона Грузии, Труды Института Геофизики им. М. Нодиа, т. LXI, 192-194, 2009.
28. **Japaridze, D. R.**, Gigolashvili, M. S., Kukhianidze, V. J., Investigation of the Differential Rotation by  $H\alpha$  Filaments and Large-Scale Magnetic Elements for Solar Activity Cycle 20, Solar-Terrestrial Influences Laboratory at the Bulgarian Academy of Science, Sozopol, Bulgaria, 25, 2008.
29. Gigolashvili, M. S., **Japaridze, D. R.**, Mdzinarishvili, T. G., Chargeishvili, B. B., Kukhianidze, V. J. Investigation of the N-S asymmetry of the differential rotation of  $H\alpha$  filaments and large-scale magnetic elements, Advances in Space Research, v. 40, Issue 7, 976-980, 2007.
30. **Japaridze, D. R.**, Gigolashvili, M. S., Kukhianidze, V. J. Investigation of the differential rotation of the large-scale magnetic elements for the solar activity cycles 20 and 21, Advances in Space Research, v. 40, Issue 7, 1912-1918, 2007.
31. M. Gigolashvili, **D. Japaridze**, T. Mdzinarishvili, About N-S Asymmetry in the Solar Differential Rotation, Long-term Changes in the Sun and their Effects in the Heliosphere and planet Earth, Sinaia, Romania, 13-16 September 2006, 18, 2006.
32. **D. Japaridze**, M. Gigolashvili, V. Kukhianidze, Investigation of Differential Rotation of Large-Scale Magnetic Field, Long-term Changes in the Sun and their Effects in the Heliosphere and planet Earth, Sinaia, Romania, 13-16 September 2006, 21, 2006.
33. **D. Japaridze**, M. Gigolashvili, V. Kukhianidze, Investigation of Solar Differential Rotation by Means of Long-Lived Features of Solar Magnetic Fields International Journal of Research and Applications "Sun and Geosphere", v. 1, Number 1, 31-34, 2006.
34. Gigolashvili, M., **Japaridze, D.**, Kukhianidze, V. Differential Rotation of Long-Lived Features' of Solar Magnetic Fields by Means of Solar Synoptic Charts, Transactions of the International Academy of Science H&E, "Science without Borders", V. 2, 136-144, 2005/2006.
35. Gigolashvili M, **Japaridze D.**, Kukhianidze V. Variations of the solar differential rotation associated with polarity reversal, Solar Physics, **231**, 23-28, 2005.
36. Gigolashvili M.Sh., **Japaridze D. R.**, Mdzinarishvili T. G., Chargeishvili B. B. N-S Asymmetry in the Solar Differential Rotation During 1957-1993, Solar Physics, Volume **227**, No. 1, 27-38, 2005.
37. **Japaridze D.**, Gigolashvili M., Kukhianidze V. Investigation of the Solar Differential Rotation by means of Long-lived Features of the Solar Magnetic Field, International Heliophysical Year Regional planning meeting for the Balkan and Black Sea region, Sozopol, Bulgaria, 6-8 June 2005, 13, 2005.
38. Гиголашвили М.Ш., Мдзинаришвили Т.Г., **Джапаридзе Д.Р.**, Чаргейшвили Б.Б. Асимметрия N-S дифференциального вращения Солнца и 22-летний магнитный цикл, Бюлл. Абастуманской астрофизической обсерватории No. **77**, 159-176, 2004.
39. Гиголашвили М.Ш., Мдзинаришвили Т.Г., **Джапаридзе Д.Р.** N - S асимметрия дифференциального вращения Солнца, обнаруженная на основе данных наблюдений водородных волокон за период 1957-1993 гг. Бюлл. Абастум. Астрофиз. Обсерв. **76**, 181-192, 2003.
40. Gigolashvili M.Sh., MdzinariSvili T. G., **Japaridze D. R.**, Chargeishvili B. B. N - S asymetry in the differential rotation of the sun and its variation with the solar cycles, New Astronomy, **8**, 529 - 536, 2003.

41. **Д. Р. Джапаридзе**, М. Ш. Гиголашвили, Э. В. Хуцишвили, Т. М. Квернадзе. Некоторые особенности дифференциального вращения водородных волокон. – Теэ. Докл. Всероссийской астрономической конф., 6-12 августа 2001 г., Санкт-Петербург, 58, 2001.
42. М. Ш. Гиголашвили, Э. В. Хуцишвили, **Д. Р. Джапаридзе**, Т. М. Квернадзе. Об N-S асимметрии дифференциального вращения Солнца, определенного как по фотосферным пятнам, так и водородным волокнам. – Теэ. Докл. Всероссийской астрономической конф., 6-12 августа 2001 г., Санкт-Петербург, 44, 2001.
43. Ts. Khetsuriani, M. Gigolashvili, E. Khutsishvili, L. Gheonjan, **D. Japaridze**, Corr. Member of the Academy R. Kiladze, G. Salukvadze, Z. Kapanadze, A. Ökten, T. Özişik, H. Gülsecen, N. Al, S. Gülsecen. Corona Observation in Elazig during the Total Solar Eclipse of August 11, 1999. - Bull. Of the Georgian Academy of Sciences, V. 163, No. 1, 62-64, 2001.
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45. M.Sh. Gigolashvili, Ts.S. Khetsuriani, E.V. Khutsishvili, R.I. Kiladze, G.N. Salukvadze, L.A. Gheonjan, A.K. Mayer, **D.R. Japaridze**, Z. Kapanadze, A. Ökten, T. Özişik, H. Gülsecen, N. Al, S. Gülsecen, A. Kilcik, B. Özgür, and F. Bostanci. Objectives of the Georgian-Turkish Joint Group at Solar Eclipse in Elazig. Astnomical Society of the Pacific Conference Series. V. 205. The Last Solar Eclipse of the Millennium in Turkey. Proc. Of a symposium held in Istanbul, Turkey 13-15 August 1999 (Eds. W.C. Livingston, A. Özgüc), 190-195, 1999.
46. Gigolashvili M., **Japaridze D.**, Gogoladze N. – Results of the Spectral Analysis of the Data of Hydrogen Filament Differential Rotation – Bull. Georgian Acad. Sci., 159, No. 2, 251-253, 1999.
47. Gigolashvili M.Sh., Khetsuriani TS.S., Khutsishvili E.V., Geonjan L.A., Kiladze R.I., Salukvadze G.N., **Japaridze D.R.**, Meier A.K., Kapanadze Z.G. On the purposes of Georgian-Turkey joint group at Solar eclipse in Elazig – Abstr. Coll. Of Intern. Sympos. “The last Total Solar Eclipse of the Millenium 11 August 1999, Istanbul, 28, 1999.
48. **Д. Р. Джапаридзе**, М. Ш. Гиголашвили, Гоголадзе. Изучение дифференциального вращения Солнца по Абастуманским данным наблюдения водородных волокон за 1965-1993 гг. – Теэ. Докл. Симп. По Солнечно-Земной физике России и стран СНГ, 15-18 декабря 1998 г., Москва, Ашхабад, 17, 1998.
49. **დ. ჯაფარიძე**, მზის დიფერენციალური ბრუნვის გამოკვლევა წყალბადის ბოჭკოების სიჩქარეთა ანალიზის საფუძველზე, ავტორეფერატი, თბილისი, 1998.
50. M.Sh. Gigolashvili, **D.R. Japaridze**, A.D. Pataraya, T.V. Zaqarashvili. An Excitation of a Quasi Bi-Annual Impulse Close to the Moment of the Solar Magnetic Field Polarity Changing. - Journ. of the Georgian Phys. Society, v. 3, 46-55, 1996.
51. M.Sh. Gigolashvili, D.R. Japaridze, A.D. Pataraya, T.V. Zaqarashvili. Propagation of a Quasi Bi-Annual Impulse Close to the Moment of the Solar Magnetic Field Polarity Changing. - Solar Physics 156, 221-228, 1995.
52. **D.R. Japaridze**, M.Sh. Gigolashvili. Investigation of the Solar Differential Rotation by Hydrogen Filaments in 1976-1986. - Solar Physics 141, 267-274, 1992.
53. М. Ш. Гиголашвили, **Д. Р. Джапаридзе**, Е. В. Закаркшвили, А. Д. Патарая. А. Л. Тактакишвили. Б. Б. Чаргеишвили. Возбуждение квази-двухлетнего импульса вблизи момента изменения знака общего магнитного поля Солнца. – Тез. Докл. 5-ого науч. Семинара РГ “Колебания и волны на Солнце,” Иркутск, 7, 1991.

54. **Д. Р. Джапаридзе**, М. Ш. Гиголашвили. Исследование дифференциального вращения Солнца с помощью Водородных волокон за 1976-1986 гг. – Тез. Докл. Всесоюз. Конф., Ашхабад, 29, 1990.
55. М. Ш. Гиголашвили, **Д. Р. Джапаридзе**, Э. В. Хуцишвили. Изофотометрия снятых 15 октября 1978 года протуберанца и близлежащего коронального узла построенные с использованием АМД-1. – Бюлл. Абаст. Астрофиз. Обсерв. No 66, 137-150, 1989.
56. М. Ш. Гиголашвили, **Д. Р. Джапаридзе**, Э. В. Хуцишвили. Изофотометрия протуберанца и близлежащего коронального узла 15. X.1978 года. “Солнечные магнитные поля и корона” – Труды XIII Консультативного совещ. по физике Солнца, том. 2, Новосибирск, “Наука,” 375-383, 1988.
57. Э. В. Хуцишвили, М. Ш. Гиголашвили, **Д. Р. Джапаридзе**. Изофотометрия протуберанца и близлежащего коронального узла 15. X.1978 года. – Тез. Докл. XIII Консультативного совещ. КАПР по физике Солнца, 6, 1988.
58. Ц. С. Хецуриани, В. И. Кулиджанишвили, **Д. Р. Джапаридзе**, Р. И. Киладзе, Э. В. Хуцишвили, Г. Ш Джавахишвили. Корона 31 июля 1981 года. – Сб.”Результаты набл. Солн. Затм. 31 июля 1981 года,” Москва, 1986.
59. Р. И. Киладзе, **Д. Р. Джапаридзе**. Влияние сплюснутости раннего Солнца на основе наклона планетных орбит. – Астрон. Вестник, том XVIII, Москва. 344-353, 1985.
60. **Д. Р. Джапаридзе**, Р. И. Киладзе. Определение сплюснутости раннего Солнца на основе наклона планетных орбит. – Бюлл. Абаст. Астрофиз. Обсерв. No 56, 149-160, 1983.
61. Ц. С. Хецуриани, **Д. Р. Джапаридзе**. О фотометрии и структуре короны при полном солнечном затмении 31 июля 1981 года. – Бюлл. Абаст. Астрофиз. Обсерв. No 56, 41-48, 1983.
62. Ц. С. Хецуриани, В. И. Кулиджанишвили, Э. В. Хуцишвили, Р. И. Киладзе, Г. Ш Джавахишвили, А. А. Амбарцумян, В. И. Дасаев, А. А. Иванишвили, **Д. Р. Джапаридзе**. Наблюдения короны Солнца при полном солнечном затмении 31 июля 1981 года. – Бюлл. Абаст. Астрофиз. Обсерв. No 56, 29-40, 1983.
63. **ჯავარძე დ.** პლანეტების ორბიტების დახრის საფუძველზე მზის შებრტყელების სიდიდის გამოთვლა. საქ. სტუდენტთა რესპ. XII სამეცნიერო კონფერენციის თეზისები, თბილისი, 1982.

#### 5. Participation in international scientific forums:

- 2017 წ. - 14<sup>th</sup> European Space Weather Week. Ostend, Belgium, November 27-December 2, 2017, (Ostend, Belgium);
- 2017 წ. - “Our mysterious Sun: magnetic coupling between solar interior and atmosphere”, September, 25-29, 2017, (Tbilisi, Georgia);
- 2015 წ. - 12<sup>th</sup> European Space Weather Week. Ostend, Belgium, November 23-27, 2015, (Ostend, Belgium);
- 2011 – International Science Conference, “Environment and Global Warming” (Tbilisi, Georgia);
- 2009 - UN/ESA/NASA/JAXA Workshop on Basic Space Science and the International Heliophysical Year 2007 (Daegjeon, South Korea);
- 2008 - The Fourth UN/ESA/NASA/JAXA Workshop on the International Heliophysical Year 2007 and Basic Space Science "First Results from the International Heliophysical Year 2007" (Sozopol, Bulgaria);
- 2006 - The Second International Symposium on Space Weather, Long-term Changes in the Sun and their Effects in the Heliosphere and Planet Earth (Sinaia, Romania);
- 2006 - The International Annual Meeting of the Balkans, Black Sea and Caspian Sea Regional Network on Space Weather Studies (Antalya, Turkey);

- 2005 - The International Heliophysical Year Regional planning meeting for the Balkan and Black Sea region (Sozopol, Bulgaria);

#### **6. Participation in research grants projects:**

- 2023 - GNSF Grant „Stability analysis of solar wind patterns in the vicinity of critical points“;
- 2021-2022 - Classification of the inner heliosphere synoptic patterns for interdisciplinary AI models;
- 2006–2008 წწ. – GNSF Grant “Waves in the solar atmosphere: their excitation, propagation and role in chromospheric/coronal heating”;
- 1999–2003 – Grants of the Georgian Academy of Sciences;
- 1999 – No UB-15/160399, Science Foundation Grant of Stambul State University, UB-15/160399;
- 1998–2000 – INTAS-97-31198, “Long-term solar seismology with world-wide network”.

#### **7. Scientific adviser:**

- 2023 - doctoral dissertation Dynamics of the large-scale magnetic formations of the solar corona”; (D. Maghradze)
- 2019 - doctoral dissertation "Study of the dynamics of the coronal holes and of the parameters and evolution of the coronal holes jets”; “Study of the coronal holes dynamics, coronal holes jets parameters and evolution” (S. Bagashvili);

#### **8. Participation in observational projects:**

1999 – Total Solar Eclipse, Elazig, Turkey;

1981 - Total Solar Eclipse, Tselinograd, Kazakhstan.

#### **9. Membership in an editorial board:**

Sun and Geosphere, International Journal of Research and Applications

ISSN: 1819 – 0839, <http://www.sungeosphere.org/>.

#### **10. Membership in societies:**

1996 - present: member of Georgian Astronomical Society.