

## Publications of Faculty Associated with CESSI

### CESSI Publications (1<sup>st</sup> April 2023 to 31<sup>st</sup> March 2024)

1. “Long-term forcing of the Sun's coronal field, open flux, and cosmic ray modulation potential during grand minima, maxima, and regular activity phases by the solar dynamo mechanism” **Dash, S., Nandy, D., & Usoskin, I.**, 2023,, Monthly Notices of Royal Astronomical Society, Volume 525, Issue 4, Pages 4801–4814
2. “Physical Models for Solar Cycle Predictions”, Bhowmik, P., Jiang, J., Upton, L., Lemerle, A., & **Nandy, D.**, 2023, Space Science Reviews, Volume 219, article number 40,
3. “Mean Field Models of Flux Transport Dynamo and Meridional Circulation in the Sun and Stars”, Hazra, G., **Nandy, D.**, Kitchatinov, L., & Choudhuri, A. R., 2023, Space Science Reviews, Volume 219, article number 39
4. “Impact of Changing Stellar and Planetary Magnetic Fields on (Exo)planetary Environments and Atmospheric Mass Loss”, **Gupta, S., Basak, A., & Nandy, D.**, 2023, The Astrophysical Journal, Volume 953, Pages 70
5. “Impact of Anomalous Active Regions on the Large-scale Magnetic Field of the Sun”, **Pal, S.**, Bhowmik, P., Mahajan, S. S., & **Nandy, D.**, 2023, The Astrophysical Journal, Volume 953, Pages 51
6. “Causality in heliophysics: Magnetic fields as a bridge between the Sun's interior and the Earth's space environment”, **Nandy, D., Baruah, Y.**, Bhowmik, P., **Dash, S., Gupta, S.**, Hazra, S., Lekshmi, B., **Pal, S., Pal, S., Roy, S., Saha, C., & Sinha, S.**, 2023, Journal of Atmospheric and Solar-Terrestrial Physics, Volume 248, Pages 106081
7. “A Time-efficient, Data-driven Modeling Approach for Predicting the Geomagnetic Impact of Coronal Mass Ejections”, **Roy, S., & Nandy, D.**, 2023, The Astrophysical Journal Letters, Volume 950, Pages L11

8. “AutoTAB: Automatic Tracking Algorithm for Bipolar Magnetic Regions”, Sreedevi, A., Jha, B. K., Karak, B. B., & **Banerjee, D.**, 2023, The Astrophysical Journal Supplement Series, Volume 268, Pages 58
9. “C. V. Vishveshwara (Vishu) on the Black Hole Trek”, Dadhich, N., **Nayak, R.K.**, 2024, Resonance, Volume 29, Pages 11–27
10. “SWASTi-CME: A Physics-based Model to Study Coronal Mass Ejection Evolution and Its Interaction with Solar Wind”, Mayank, P., **Vaidya, B.**, Mishra, W., Chakrabarty, D., 2024, The Astrophysical Journal Supplement Series, Volume 270, Pages 10
11. “Correction to: The Solar Ultra-Violet Imaging Telescope (SUIT) Onboard Intelligence for Flare Observations”, Varma, M. et al. (including **Ramprakash, A., Tripathi, D.**, and **Sankarasubramaniam, K.**), 2024, Solar Physics, Volume 299, article number 32
12. “Solar flare catalog from 3 years of Chandrayaan-2 XSM observations”, Valluvan, A. B. et al. (including **Sankarasubramaniam, K.**), 2024, Solar Physics, Volume 299, article number 8
13. “Gyroscopic precession in the vicinity of a static blackhole’s event horizon”, **Paulami Majumder** and **Nayak, R.K.**, 2023, General Relativity and Gravitation, Volume 55, article number 59
14. “Longitudinal and Transverse Optical Beam Shifts Show Non-separability”, Modak, N., Ashutosh, S., Guchhait, S., Das, S., Pan, A.K. and **Ghosh, N.**, 2023,, Laser & Photonics Reviews, Volume 17, Issue 9, Pages 2300166
15. “Enhanced beam shifts mediated by bound states in continuum”, Biswas, S.S., Remesh, G., Achanta, V.G., **Banerjee, A.**, **Ghosh, N.** and Gupta, S.D., 2023, Journal of Optics, Volume 25, Issue 9, Pages 095401
16. “Enhanced directionality of active processes in a viscoelastic bath”, Biswajit Das et. al. (including **A. Banerjee**), 2023, New Journal of Physics, Volume 25, Pages 093051.

17. “Enhanced power of gravitational waves and rapid coalescence of black hole binaries through k-essence dark energy accretion”, Arnab Sarkar, Amna Ali , **K. Rajesh Nayak**, A. S. Majumdar, 25 April 2023, Phys. Rev. D, Vol 107, Issue 08, 084038
18. “Constraints on the cosmic expansion history from GWTC-3”, R. Abbott, H. Abe, F. Acernese et. al. (including **R.K. Nayak**), 2023, Astrophysical Journal, Volume 949, Issue 2, Pages 1-37
19. “GWTC-3: Compact Binary Coalescences Observed by LIGO and Virgo during the Second Part of the Third Observing Run”, R. Abbott, T. D. Abbott, F. Acernese et. al. (including **R.K. Nayak**), 2023, Physical Review X, Volume-13, Issue-4, Pages-041039
20. “Search for gravitational waves associated with fast radio bursts detected by CHIME/FRB during the LIGO–Virgo observing run O3a”, R. Abbott, T. D. Abbott, F. Acernese et. al. (including **R.K. Nayak**), 2023, Astrophysical Journal, Volume 955, Issue 2, Page 155
21. “A coronal mass ejection source region catalog and their associated properties”, Majumdar, S., Patel, R., Pant, V., **Banerjee, D.**, Rawat, A., Pradhan, A. & Singh, P., 2023, The Astrophysical Journal Supplement Series, Volume 268, Pages 38
22. “Exploring the impact of imaging cadence on inferring CME kinematics”, Vashishtha, N., Majumdar, S., Patel, R., Pant, V. & **Banerjee, D.**, 2023, Frontiers in Astronomy and Space Sciences, Volume 10, Pages 1232197
23. “Multithermal apparent damping of slow waves due to strands with a Gaussian temperature distribution”, Van Doorselaere, T., Prasad, S.K., Pant, V., **Banerjee, D.** & Hood, A., 2024, Astronomy & Astrophysics, Volume 683, article number A109
24. “Differential rotation of the solar chromosphere: a century-long perspective from Kodaikanal solar observatory Ca ii K data”, Mishra, D.K., Routh, S., Jha, B.K., Chatzistergos, T., Basu, J., Chatterjee, S., **Banerjee, D.** & Ermolli, I., 2024, The Astrophysical Journal, Volume 961, Pages 70

25. “Discovery of a relation between the decay rate of the Sun's magnetic dipole and the growth rate of the following sunspot cycle: a new precursor for solar cycle prediction”, **Jaswal, P., Saha, C., & Nandy, D.**, 2024, Monthly Notices of the Royal Astronomical Society: Letters, Volume 528, Issue 1, Pages L27–L32
26. “Long-term solar variability: ISWAT S1 cluster review for COSPAR space weather roadmap”, Pevtsov, A. A., **Nandy, D.**, Usoskin, I., Pevtsov, A. A., Corti, C., Lefèvre, L., Owens, M, Li, G., Krivova, N, **Saha, C.**, Perri, B., Brun, A. S., Strugarek, A., Dayeh, M. A., Nagovitsyn, Y. A., Erdélyi, R., 2023, Advances in Space Research
27. “Firefly: The Case for a Holistic Understanding of the Global Structure and Dynamics of the Sun and the Heliosphere”, Raouafi, N. E. et al. (including **Nandy, D.**), 2023, Bulletin of the American Astronomical Society, Volume 55, Issue 3, 333
28. “Exploring the Solar Poles: The Last Great Frontier of the Sun”, **Nandy, D., Banerjee, D.**, Bhowmik, P., Brun, A. S., Cameron, R. H., Gibson, S. E., Hanasoge, S., Harra, L., Hassler, D. M., Jain, R., Jiang, J., Jouve, L., Mackay, D. H., Mahajan, S. S., Mandrini, C. H., Owens, M., **Pal, S.**, Pinto, R. F., **Saha, C.**, Sun, X., Tripathi, D., & Usoskin, I. G., 2023, Bulletin of the American Astronomical Society, Volume 55, Issue 3, 287
29. “Solaris: A Focused Solar Polar Discovery-class Mission to achieve the Highest Priority Heliophysics Science Now”, Hassler, D. M. et al. (including **Nandy, D.**), 2023, Bulletin of the American Astronomical Society, Volume 55, Issue 3, 164
30. “Prediction of Solar Energetic Events Impacting Space Weather Conditions”, Georgoulis, Manolis K., et al. (including **Nandy, D.**), 2024, Advances in Space Research
31. “A joint Fermi-GBM and Swift-BAT analysis of gravitational-wave candidates from the third gravitational-wave observing run”, C. Fletcher, J. Wood, R. Hamburg et. al. (including **R.K. Nayak, S. Pal**), 2024, Astrophysical Journal, Volume 964, Issue 2, Pages 1-35

32. “AuroraMag: Twin explorer of asymmetry in aurora and solar wind-magnetosphere coupling”, Bhaskar, A. et al. (including **Nandy, D.** and **Vaidya, B.**), 2024, Advances in Space Research

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1. “Adaptive hyperspectral imaging using structured illumination in a spatial light modulator-based interferometer”, 2022, **Amar Deo Chandra, Mintu Karmakar, Dibyendu Nandy, Ayan Banerjee**, Optics Express, Volume **30**, Issue 11, Page 19930
2. “A comparative analysis of machine-learning models for solar flare forecasting: identifying high-performing active region flare indicators”, 2022, **Suvadip Sinha, Om Gupta, Vishal Singh, B Lekshmi, Dibyendu Nandy**, Dhruvaditya Mitra, Saikat Chatterjee, Sourangshu Bhattacharya, Saptarshi Chatterjee, **Nandita Srivastava**, Axel Brandenburg, **Sanchita Pal**, Astrophysical Journal, Volume **935**, Page 45
3. “Magnetic cloud prediction model for forecasting space weather relevant properties of Earth-directed coronal mass ejections”, 2022, **Sanchita Pal, Dibyendu Nandy**, & Emilia KJ Kilpua, Astronomy and Astrophysics, Volume **665**, Page A110
4. “Evidence of persistence of weak magnetic cycles driven by meridional plasma flows during solar grand minima phases”, 2022, **Chitradeep Saha, Sanghita Chandra, & Dibyendu Nandy**, Monthly Notices of the Royal Astronomical Society Letters, Volume **517**, Issue 1, Page L36
5. “Forecasting Solar Cycle 25 with Physical Model-Validated Recurrent Neural Networks”, 2023, Aleix Espuña Fontcuberta, Anubhab Ghosh, Saikat Chatterjee, Dhruvaditya Mitra, **Dibyendu Nandy**, Solar Physics, Volume **298**, Issue 1, Page 8(1-19)
6. “Towards the development of new generation spin-orbit photonic techniques”, 2022, **BS Athira**, Mandira Pal, Sounak Mukherjee, Niladri Modak, Sudipta Saha, Ankit Kumar Singh, Subhasish Dutta Gupta, **Dibyendu Nandy, Nirmalya Ghosh**, Journal of Optics, Volume **24**, Issue 5, Page 054006
7. “Three-dimensional simulations of advective, sub-Keplerian accretion flow on to non-rotating black holes”, 2022, **Sudip Kumar Garain** and Jinho Kim, Monthly

Notices of the Royal Astronomical Society (March 2023), Volume 519, Issue 3, Pages 4550–4563

8. “A Simple Radial Gradient Filter for Batch-Processing of Coronagraph Images”, 2022, Ritesh Patel, Satabdwa Majumdar, Vaibhav Pant, **Dipankar Banerjee**, Solar Physics, **297**, Article number: 27
9. “X-Ray and Ultraviolet Flares on AT Microscopii Observed by AstroSat”, 2022, A. A. Kuznetsov, R. R. Karakotov, K. Chandrashekhar and **Dipankar Banerjee**, Astronomy and Astrophysics, Volume 23, Number 1
10. “Detection of Solar Filaments Using Suncharts from Kodaikanal Solar Observatory Archive Employing a Clustering Approach”, 2023, Aditya Priyadarshi, Manjunath Hegde, Bibhuti Kumar Jha, Subhamoy Chatterjee, Sudip Mandal, Mayukh Chowdhury, and **Dipankar Banerjee**, The Astrophysical Journal, Volume 943, Number 2
11. “A Volumetric Study of Flux Transfer Events at the Dayside Magnetopause”, 2022, Arghyadeep Paul, **Bhargav Vaidya**, and Antoine Strugarek, The Astrophysical Journal, Volume 938, Number 2
12. “The Solar Ultra-Violet Imaging Telescope (SUIT) Onboard Intelligence for Flare Observations”, 2022, Manoj Varma, Sreejith Padinhatteeri, Sakya Sinha, Anurag Tyagi, Mahesh Burse, Reena Yadav, Ghanshyam Kumar, **Anamparambu Ramaprakash**, **Durgesh Tripathi**, **K Sankarasubramanian**, Krishnappa Nagaraju, Koushal Vadodariya, Srikar Tadepalli, Rushikesh Deogaonkar, Manjunath Olekar, Mohamed Azaruddin, Amrita Unnikrishnan, Solar Physics, Volume **298**, pages 1
13. “Longitudinal and Transverse Optical Beam Shifts Show Non-separability”, 2023, Niladri Modak, Swain Ashutosh, Shyamal Guchhait, Sayantan Das, Alok Kumar Pan, **Nirmalya Ghosh**, Laser & Photonics Reviews, pages 2300166
14. “Diffraction of an off-axis vector-beam by a tilted aperture”, 2022, Ghanasyam Remesh, **BS Athira**, Shyamal Guchhait, **Ayan Banerjee**, **Nirmalya Ghosh**, Subhasish Dutta Gupta, Journal of Optics, Volume **24**, Issue 10, Pages 105602
15. “Emerging Aspects of Optical Beam Shifts”, 2022, Niladri Modak, S Ashutosh, Sayan Ghosh, Shyamal Guchhait, Sayantan Das, **Nirmalya Ghosh**, Frontiers in Optics, Pages JTU5A. 29

16. “Tests of General Relativity with GWTC-3”, 2022, R. Abbott et al. (including **R. K. Nayak, S. Pal**) , PHYSICAL REVIEW D (accepted)
17. “All-sky search for gravitational wave emission from scalar boson clouds around spinning black holes in LIGO O3 data”, 2022, R. Abbott et al. (including **R. K. Nayak, S. Pal**) , PHYSICAL REVIEW D 105, 102001 (2022) – Published 9 May 2022
18. “Searches for Gravitational Waves from Known Pulsars at Two Harmonics in the Second and Third LIGO-Virgo Observing Runs”, 2022, R. Abbott et al. (including **R. K. Nayak, S. Pal**) , The Astrophysical Journal, 935:1 (33pp), – Published 1 August 2022
19. “Search for continuous gravitational wave emission from the Milky Way center in O3 LIGO-Virgo data”, 2022, R. Abbott et al. (including **R. K. Nayak, S. Pal**) , Phys. Rev. D 106, 042003 – Published 9 August 2022
20. “Model-based cross-correlation search for gravitational waves from the low-mass X-ray binary Scorpius X-1 in LIGO O3 data”, 2022, R. Abbott et al. (including **R. K. Nayak, S. Pal**) , The Astrophysical Journal Letters, 941, L30 (2022) – Published 16 December 2022
21. “Search for subsolar-mass black hole binaries in the second part of Advanced LIGO's and Advanced Virgo's third observing run”, 2022, R. Abbott et al. (including **R. K. Nayak, S. Pal**) , Monthly Notices of the Royal Astronomical Society, stad588, Published: 28 February 2023
22. “Search for Subsolar-Mass Binaries in the First Half of Advanced LIGO's and Advanced Virgo's Third Observing Run”, 2022, R. Abbott et al. (including **R. K. Nayak**) , Phys. Rev. Lett. 129, 061104 – Published 5 August 2022
23. “Search of the early O3 LIGO data for continuous gravitational waves from the Cassiopeia A and Vela Jr. supernova remnants”, 2022, R. Abbott et al. (including **R. K. Nayak**) , Phys. Rev. D 105, 082005 – Published 28 April 2022
24. “Narrowband searches for continuous and long-duration transient gravitational waves from known pulsars in the LIGO-Virgo third observing run”, 2022, R. Abbott et al. (including **R. K. Nayak**) , ApJ 932 133 – Published 2022 June 27

25. “First joint observation by the underground gravitational-wave detector KAGRA with GEO 600”, 2022, R. Abbott et al. (including **R. K. Nayak, S. Pal**) , Progress of Theoretical and Experimental Physics, Volume 2022, Issue 6, June 2022, 063F01, Published: 30 April 2022
26. “All-sky, all-frequency directional search for persistent gravitational waves from Advanced LIGO’s and Advanced Virgo’s first three observing runs”, 2022, R. Abbott et al. (including **R. K. Nayak, S. Pal**) , Phys. Rev. D 105, 122001 – Published 3 June 2022
27. “Enhanced power of gravitational waves and rapid coalescence of black hole binaries through k-essence dark energy accretion”, Arnab Sarkar, Amna Ali , **K. Rajesh Nayak**, A. S. Majumdar, Phys. Rev. D 107, 084038 – Published 25 April 2023
28. “Gyroscopic precession in the vicinity of a static blackhole’s event horizon”, **P Majumder, KR Nayak**, General Relativity and Gravitation volume 55, Article number: 59 (2023)
29. “Population of Merging Compact Binaries Inferred Using Gravitational Waves through GWTC-3”, R. Abbott *et al.* (including **K.R. Nayak**), Phys. Rev. X 13, 011048 – Published 29 March 2023
30. “All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO and Advanced Virgo O3 data”, R. Abbott *et al.* (including **K.R. Nayak**), Phys. Rev. D 106, 102008 – Published 28 November 2022
31. “Search for gravitational waves from Scorpius X-1 with a hidden Markov model in O3 LIGO data”, R. Abbott *et al.* (including **K.R. Nayak, S. Pal**), Phys. Rev. D 106, 062002 – Published 21 September 2022
32. “Extended bodies moving on geodesic trajectories”, Sajal Mukherjee, Georgios Lukes-Gerakopoulos **Rajesh Kumble Nayak**, General Relativity and Gravitation (2022) 54: 113, Published online: 24 September 2022



CESSI Publications (1st April 2021 to 31st March 2022)

1. "Erratum:" A Gravitational-wave Measurement of the Hubble Constant Following the Second Observing Run of Advanced LIGO and Virgo", 2021, Abbott, B. P. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), Astrophysical Journal, Volume 923, Pages 279
2. "Erratum: "Searches for Continuous Gravitational Waves from 15 Supernova Remnants and Fomalhaut b with Advanced LIGO", 2021, Abbott, B. P. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), Astrophysical Journal, Volume 918, Issue 2, Pages 1-6
3. "Population properties of compact objects from the second LIGO–Virgo gravitational-wave transient catalog", 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), The Astrophysical journal letters, Volume 913, Issue 1, Pages L7
4. "Diving below the spin-down limit: Constraints on gravitational waves from the energetic young pulsar PSR J0537-6910", 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), The Astrophysical Journal Letters, Volume 913 Issue 2 Pages L27
5. "GWTC-2: compact binary coalescences observed by LIGO and Virgo during the first half of the third observing run", 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), Physical Review X, Volume 11 Issue 2 Pages 021053
6. "Tests of general relativity with binary black holes from the second LIGO-Virgo gravitational-wave transient catalog", 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration)(including **Nayak, Rajesh K.**), Physical review D, Volume 103 Issue 12 Pages 122002
7. "Constraints on cosmic strings using data from the third Advanced LIGO–Virgo observing run", 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), Physical review letters, Volume 126 Issue 24 Pages 241102

8. “Observation of gravitational waves from two neutron star–black hole coalescences”, 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), The Astrophysical journal letters, Volume 915, Issue 1, Pages L5
9. “Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift during the LIGO–Virgo Run O3a”, 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), The Astrophysical Journal, Volume 915 Issue 2 Pages 86
10. “Upper limits on the isotropic gravitational-wave background from Advanced LIGO and Advanced Virgo’s third observing run”, 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), Physical Review D, Volume 104 Issue 2 Pages 022004
11. “Search for anisotropic gravitational-wave backgrounds using data from Advanced LIGO and Advanced Virgo’s first three observing runs”, 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), Physical Review D, Volume 104 Issue 2 Pages 022005
12. Erratum: “Searches for Continuous Gravitational Waves from 15 Supernova Remnants and Fomalhaut b with Advanced LIGO” (2019, ApJ, 875, 122), 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), The Astrophysical Journal, Volume 918 Issue 2 Pages 91
13. Erratum: “Searches for Continuous Gravitational Waves from Nine Young Supernova Remnants” (2015, ApJ, 813, 39), 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), The Astrophysical Journal, Volume 918 Issue 2 Pages 90
14. “All-sky search for continuous gravitational waves from isolated neutron stars in the early O3 LIGO data”, 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), Physical Review D, Volume 104, Issue 8, Pages 082004
15. “Searches for continuous gravitational waves from young supernova remnants in the early third observing run of Advanced LIGO and Virgo”, 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), The Astrophysical Journal, Volume 921, Issue 1, Pages 80
16. “Constraints from LIGO O3 Data on Gravitational-wave Emission Due to R-modes in the Glitching Pulsar PSR J0537–6910”, Abbott, R. et al. (LIGO Scientific

Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), The Astrophysical Journal, Volume 922, Issue 1, Pages 71

17. “Search for lensing signatures in the gravitational-wave observations from the first half of ligo–virgo’s third observing run”, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), The Astrophysical Journal, Volume 923, Issue 1, Pages 14
18. Erratum: “A Gravitational-wave Measurement of the Hubble Constant Following the Second Observing Run of Advanced LIGO and Virgo” (Astrophysical Journal (2021) 909 (218), 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), Astrophysical Journal, Volume 923 Issue 2 Pages 279
19. “All-sky search for short gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run”, 2021, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), Physical Review D, Volume 104, Issue 12, Pages 122004
20. “Search for continuous gravitational waves from 20 accreting millisecond X-ray pulsars in O3 LIGO data”, 2022, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), Physical Review D, Volume 105, Issue 2, Pages 022002
21. “Search for intermediate-mass black hole binaries in the third observing run of Advanced LIGO and Advanced Virgo”, 2022, Abbott, R. et al. (LIGO Scientific Collaboration and Virgo Collaboration) (including **Nayak, Rajesh K.**), Astronomy & Astrophysics, Volume 659, Article Number A84
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25. “Stellar mid-life crisis: subcritical magnetic dynamos of solar-like stars and the breakdown of gyrochronology“, 2021, Bindesh Tripathi, **Dibyendu Nandy**, Soumitro Banerjee, Monthly Notices of the Royal Astronomical Society: Letters, Volume 506, Pages L50-L54
26. “Solar Cycle Evolution of Filaments over a Century: Investigations with the Meudon and McIntosh Hand-drawn Archives”, 2021, Rakesh Mazumder, Subhamoy Chatterjee, **Dibyendu Nandy**, **Dipankar Banerjee**, The Astrophysical Journal, Volume 919, pp 125
27. “Solar evolution and extrema: current state of understanding of long-term solar variability and its planetary impacts”, 2021, **Dibyendu Nandy**, Petrus CH Martens, Vladimir Obridko, **Soumyaranjan Dash**, Katya Georgieva, Progress in Earth and Planetary Science, Volume 8, pp 1-21
28. “Predictability of variable solar–terrestrial coupling”, 2021, Ioannis A Daglis, Loren C Chang, Sergio Dasso, Nat Gopalswamy, Olga V Khabarova, Emilia Kilpua, Ramon Lopez, Daniel Marsh, Katja Matthes, **Dibyendu Nandy**, Annika Seppälä, Kazuo Shiokawa, Rémi Thiéblemont, Qiugang Zong, Annales Geophysicae, Volume 39, pp 1013-1035
29. “Generalized framework of weak-value amplification in path interference of polarized light for the enhancement of all possible polarization anisotropy effects”, 2021, Niladri Modak, BS Athira, Ankit Kumar Singh, **Nirmalya Ghosh**, Physical Review A, Volume 103, pp 053518
30. “Investigating width distribution of slow and fast CMEs in solar cycles 23 and 24”, 2021, Pant, V.; Majumdar, S.; Patel, R.; Chauhan, A.; **Banerjee, Dipankar**; Gopalswamy, N., Frontiers in Astronomy and Space Sciences, Volume 8, id.73
31. “Characterizing Spectral Channels of Visible Emission Line Coronagraph of Aditya-L1”, 2021, Patel, Ritesh; Megha, A.; Shrivastav, Arpit Kumar; Pant, Vaibhav; Vishnu, M.; **Sankarasubramanian, K.**; **Banerjee, Dipankar**, Frontiers in Astronomy and Space Sciences, Volume 8, id.88
32. “An Insight into the Coupling of CME Kinematics in Inner and Outer Corona and the Imprint of Source Regions”, 2021, Majumdar, Satabdwa; Patel, Ritesh; Pant, Vaibhav; **Banerjee, Dipankar**, The Astrophysical Journal, Volume 919, Issue 2, id.115
33. “Solar Cycle Evolution of Filaments over a Century: Investigations with the Meudon and McIntosh Hand-drawn Archives”, 2021, Mazumder, Rakesh; Chatterjee,

Subhamoy; **Nandy, Dibyendu; Banerjee, Dipankar**, The Astrophysical Journal, Volume 919, Issue 2, id.125

34. “Magnetohydrodynamic Waves in Open Coronal Structures”, 2021, **Dipankar Banerjee** et al., Space Science Reviews, Volume 217, Issue 7, id.76
35. “Uncovering the process that transports magnetic helicity to coronal mass ejection flux ropes”, **Sanchita Pal**, Advances in Space Research, Nov 2021, ISSN 0273-117

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1. “Modelling the imposed magnetospheres of Mars-like exoplanets: star-planet interactions and atmospheric losses”, 2021, **Basak, Arnab., Nandy, Dibyendu.**, Monthly Notices of the Royal Astronomical Society, Volume 502, Issue 3
2. “Progress in Solar Cycle Predictions: Sunspot Cycles 24–25 in Perspective”, 2021, **Nandy, Dibyendu.**, Solar Physics, Volume 296, Article number 54
3. “Migration of Solar Polar Crown Filaments in the Past 100 Years”, 2021, Xu, Yan., **Banerjee, Dipankar.**, Chatterjee, Subhamoy., Pötzi, Werner., Wang, Ziran., Ruan, Xindi., Jing, Ju., Wang, Haimin., The Astrophysical Journal, Volume 909, Page 86
4. “Automated Detection of Accelerating Solar Eruptions Using Parabolic Hough Transform”, 2021, Patel, Ritesh., Pant, Vaibhav., Iyer, Priyanka., **Banerjee, Dipankar.**, Mierla, Marilena., West, Matthew J., Solar Physics, Volume 296, Article number 31
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