



Dr. Hidetaka Kuniyoshi

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Current Position

1. Japan Society for the Promotion of Science (JSPS) Overseas Research Fellow (Apr. 2025-)
Host institution: Solar and Space Physics Group, Northumbria University, UK

Education

1. **PhD**, Dpt. of Earth and Planetary Science, The University of Tokyo (Apr. 2022–Mar. 2025)
Thesis: The role of swirls in solar coronal heating
2. **MSc**, Dpt. of Earth and Planetary Science, The University of Tokyo (Apr. 2020–Mar. 2022)
3. **BSc**, Dpt. of Earth and Planetary Physics, The University of Tokyo (Apr. 2016–Mar. 2020)

Fellowships, Awards & Grants

1. Japan Society for the Promotion of Science (JSPS) Overseas Postdoctoral Research Fellowships, April 2025–March 2027
2. The University of Tokyo School of Science Research Award (Doctor, ranked 1st in Dpt. Of Earth and Planetary Science), March 2025
3. The University of Tokyo School of Science Research Award (Master), March 2025
4. International Travel Support for Students, Institute for Space-Earth Environmental Research (ISEE), Nagoya University, June 2023
5. Bronze Medal, Japan Physics Olympiad, August 2014

High Performance Computer (HPC) and Observational experience as PI

HPC

1. **XD2000**, Centre for Computational Astrophysics (CfCA), National Astronomical Observatory of Japan (NAOJ): *12 million CPU hours*, 2025
2. **XD2000**, CfCA, NAOJ: *9 million CPU hours* (2024)
3. **A-KDK**, Research Institute for Sustainable Humanosphere (RISH), Kyoto University: *1.7 million CPU hours*, 2025
4. **A-KDK**, RISH, Kyoto University: *1.7 million CPU hours*, 2024

Observation

5. **Daniel K. Inouye Solar Telescope (DKIST)**, DKIST Cycle 4, 2026

Conference organizing experiences

1. **Session Chair**, “Linking Plasma Dynamics in the Lower Solar Atmosphere to Magnetic Activity”, Asia Oceania Geoscience Society, 2026 (accepted),

List of Publications (all peer-reviewed)

First-author Papers:

1. **Kuniyoshi, H.**, Imada, S., Yokoyama, T., 2025, *A unified picture of swirl-driven coronal heating: magnetic energy supply and dissipation*, *ApJL*, 990, L71.
2. **Kuniyoshi, H.**, Bose, S., Yokoyama, T., 2024, *Comprehensive Synthesis of Magnetic Tornado: Cospatial Incidence of Chromospheric Swirls and Extreme-ultraviolet Brightening*, *ApJL*, 969, L34. *Top 10% most cited paper in Space Science (Web of Science)*.
3. **Kuniyoshi, H.**, Morton, R. J., Shoda, M., Yokoyama, T., 2024, *Can the Solar p-modes Contribute to the High-frequency Transverse Oscillations of Spicules?*, *ApJ*, 960, 118
4. **Kuniyoshi, H.**, Shoda, M., Iijima, H., Yokoyama, T., 2023, *Magnetic Tornado Properties: A Substantial Contribution to the Solar Coronal Heating via Efficient Energy Transfer*, *ApJ*, 949, 8. *Top 10% most cited paper in Space Science (Web of Science)*.
5. **Kuniyoshi, H.**, Hesse, M., Norgren, C., Tenfjord, P., Kwagalala, N. K., 2021, *Magnetic Reconnection in a Sheared Magnetic Flux Tube: Slippage Versus Tearing*, *JGR: Space Physics*, 126, e29236.

Co-author Paper:

6. Baker, D., et al. (incl. **Kuniyoshi, H.**), *Searching for Evidence of Subchromospheric Magnetic Reconnection on the Sun*, *ApJ*, 970, 39 (2024)

Talks at Conferences and Workshops (6 invited talks)

1. Waves and Instability in the Solar Atmosphere (WISA), INAF, Italy, 25 Sep. 2025
2. Hinode18–IRIS16 Meeting, UCL, UK, 23–27 Jun. 2025 (**invited**)
3. SPINS Meeting, Sheffield U, UK, 2–4 Jun. 2025 (**invited**)
4. Solar Orbiter Atmospheric Heating WG Seminar (online), 5 May 2025 (**invited**)
5. ASJ Spring Meeting, Ibaraki U, Japan, 17–20 Mar. 2025
6. Japan Solar Physics Community Symposium, ISAS, Japan, 17–19 Feb. 2025 (**invited**)
7. Cool Stars Workshop in Japan, UTokyo, Japan, 12–14 Feb. 2025
8. Rironkon Symposium, NAOJ, Japan, 24–26 Dec. 2024
9. ASJ Fall Meeting, Kansei U, Japan, 11–13 Sep. 2024
10. Hinode-17 IRIS-15 SPHERE-3 Meeting, Montana U, USA, 23–27 Jul. 2024
11. RIMS Symposium “Non-equilibrium Turbulence”, Kyoto U, Japan, 22–24 Jul. 2024 (**invited**)
12. ASJ Spring Meeting, UTokyo, Japan, 11–15 Mar. 2024
13. Solar-C SWG Meeting, Nagoya U, Japan, 5–6 Mar. 2024
14. JSPC Symposium, NAOJ, Japan, 20–22 Feb. 2024
15. Chromospheric Magnetic Field Workshop, NAOJ, Japan, 14–16 Feb. 2024 (**invited**)
16. CfCA Users Meeting, NAOJ, Japan, 29–30 Jan. 2024
17. Hinode-16 / IRIS-13 Meeting, Niigata, Japan, Sep. 2023
18. ASJ Fall Meeting, Nagoya, Japan, Sep. 2023

19. WISA, Newcastle, UK, Jun. 2023
20. ASJ Spring Meeting, UTokyo, Japan, Mar. 2023
21. JSPC Symposium, Nagoya, Japan, Feb. 2023
22. ASJ Fall Meeting, Niigata, Japan, Sep. 2022
23. JSFM Annual Meeting, Kyoto, Japan, Sep. 2022
24. SOLAR MHD Conference, Eastbourne, UK (hybrid), Aug. 2022
25. JpGU Meeting, Chiba, Japan (hybrid), May 2022
26. JSPC Symposium, Online, Feb. 2022
27. AGU Fall Meeting, New Orleans, USA (hybrid), Dec. 2021
28. JpGU Meeting, Online, May 2021
29. ASJ Spring Meeting, Online, Mar. 2021

Selected Posters at Conferences and Workshops

1. IAU Symposium 400, EAFIT U, Colombia, 21–25 Jul. 2025
2. National Astronomical Meeting, Durham U, UK, 7–11 Jul. 2025
3. CfCA Users Meeting, NAOJ, Japan, 25–26 Nov. 2024
4. Rironkon Symposium “High Redshift as the Frontier”, Aomori, Japan, Dec. 2023
5. AGU Fall Meeting, San Francisco, USA, Dec. 2023
6. JpGU Meeting, Chiba, Japan, May 2023
7. IAUGA, Busan, ROK (hybrid), Aug. 2022
8. AGU Fall Meeting, Online, Dec. 2020
9. JSPC Symposium, Online, Dec. 2020

Invited Seminar Talks

1. Plasma Dynamics Group (PDG) seminar, Sheffield University, UK, 09 Oct. 2025
2. Yamada Lab Seminar, Waseda U, Japan, 9 May 2025
3. Seminar, Nagoya U (invited), Aichi, Japan, Jul. 2024
4. Seminar, Tsukuba Space Forum, U. Tsukuba (invited), Ibaraki, Japan, Apr. 2024
5. Seminar, Dept. of Earth Science & Astronomy, U. Tokyo (invited), Tokyo, Japan, Oct. 2023
6. Seminar, Mullard Space Science Laboratory, UCL (invited, online), Aug. 2023
7. Seminar, Plasma Dynamics Group, U. Sheffield (invited, online), May 2023