9. Publications and Presentations

Papers (in refereed Journals, April 2022–March 2023)

Aalbers, J., S. Abdussalam, K. Abe, V. Aerne, F. Agostini, S. Ahmed Maouloud, D. S. Akerib, D. Y. Akimov, J. Akshat, A. K. Al Musalhi et al. (**Y. Itow**, **S. Kazama**, **M. Kobayashi**, **K. Ozaki**), A next-generation liquid xenon observatory for dark matter and neutrino physics. *J. Phys. G-Nucl. Part. Phys.*, **50(1)**, 013001, Jan. 2023 (10.1088/1361-6471/ac841a).

Abadi, P., U. A. Ahmad, **Y. Otsuka**, P. Jamjareegulgarn, D. R. Martinigrum, A. Faturahman, S. Perwitasari, R. E. Saputra, and R. R. Septiawan, Modeling post-sunset equatorial spread-F occurrence as a function of evening upward plasma drift using logistic regression, deduced from ionosondes in southeast Asia. *Remote Sens.*, **14(8)**, 1896, Apr. 14, 2022 (10.3390/rs14081896).

Abe, H., S. Abe, V. A. Acciari, T. Aniello, S. Ansoldi, L. A. Antonelli, A. Arbet Engels, C. Arcaro, M. Artero, K. Asano et al. (**A. Okumura, H. Tajima, M. Takahashi**), Gamma-ray observations of MAXI J1820+070 during the 2018 outburst. *Mon. Not. Roy. Astron. Soc.*, **517(4)**, 4736–4751, Dec. 2022 (10.1093/mnras/stac2686).

Abe, H., S. Abe, V. A. Acciari, I. Agudo, T. Aniello, S. Ansoldi, L. A. Antonelli, A. Arbet Engels, C. Arcaro, M. Artero et al. (**A. Okumura**, **H. Tajima**), MAGIC observations provide compelling evidence of hadronic multi-TeV emission from the putative PeVatron SNR G106.3+2.7. *Astron. Astrophys.*, **671**, A12, Mar. 2033 (10.1051/0004-6361/202244931).

Abe, K., Y. Haga, Y. Hayato, K. Hiraide, K. Ieki, M. Ikeda, S. Imaizumi, K. Iyogi, J. Kameda, Y. Kanemura et al. (**Y. Itow**, **H. Menjo**, **G. Mitsuka**, **M. Murase**, **F. Muto**, **T. Niwa**, **T. Suzuki**, **M. Tsukada**), Neutron tagging following atmospheric neutrino events in a water Cherenkov detector. *J. Instrum.*, **17(10)**, P10029, Oct. 18, 2022 (10.1088/1748-0221/17/10/P10029).

Abe, K., C. Bronner, Y. Hayato, M. Ikeda, S. Imaizumi, H. Ito, J. Kameda, Y. Kataoka, M. Miura, S. Moriyama et al. (**Y. Itow**, **H. Menjo**, **T. Niwa**, **K. Sato**, **M. Tsukada**), Search for solar electron anti-neutrinos due to spin-flavor precession in the Sun with Super-Kamiokande-IV. *Astropart. Phys.*, **139,** 102702, Jun. 2022 (10.1016/j.astropartphys.2022.102702).

Abe, K., Y. Hayato, K. Hiraide, K. Ieki, M. Ikeda, J. Kameda, Y. Kanemura, R. Kaneshima, Y. Kashiwagi, Y. Kataoka et al. (**Y. Itow**, **H. Menjo**, **K. Ninomiya**), Search for cosmic-ray boosted Sub-GeV dark matter using recoil protons at Super-Kamiokande. *Phys. Rev. Lett.*, **130(3)**, 031802, Jun. 20, 2022 (10.1103/PhysRevLett.130.031802).

Abe, K., K. Hiraide, K. Ichimura, N. Kato, Y. Kishimoto, K. Kobayashi, M. Kobayashi, S. Moriyama, M. Nakahata, K. Sato et al. (**Y. Itow**, **K. Kanzawa**, **K. Masuda**), Search for neutrinoless quadruple beta decay of 136Xe in XMASS-I. *Phys. Lett. B*, **833**, 137355, Oct. 10, 2022 (10.1016/j.physletb.2022.137355).

Abe, M., **H. Fujinami**, and **T. Hiyama**, Dominant spatial patterns of interannual variability in summer precipitation across northern Eurasia from Coupled Model Intercomparison Project Phase 5 models. *Int. J. Climatol.*, **42(10)**, 5173–5196, Aug. 2022 (10.1002/joc.7526).

Abdollahi, S., F. Acero, M. Ackermann, L. Baldini, J. Ballet, G. Barbiellini, D. Bastieri, R. Bellazzini, B. Berenji, A. Berretta et al. (**H. Tajima**), Search for new cosmic-ray acceleration sites within the 4FGL catalog Galactic plane sources. *Astrophys. J.*, **933(2)**, 204, Jul. 14, 2022 (10.3847/1538-4357/ac704f).

Abdollahi, S., F Acero, L Baldini, J. Ballet, D. Bastieri, R. Bellazzini, B. Berenji, A. Berretta, E. Bissaldi, R. D. Blandford et al. (**H. Tajima**), Incremental Fermi large area telescope fourth source catalog. *Astrophys. J. Suppl. Ser.*, **260(2)**, 53, Jun. 2022 (10.3847/1538-4365/ac6751).

Adhitya, P., **M. Nose**, J. Bulusu, G. Vichare, and A. K. Sinha, Observation of ionospheric Alfven resonator with double spectral

resonance structures at low latitude station, Shillong (*dipoleL*=1.08), *Earth Planets Space*, **74(1)**, 169, Nov. 12, 2022 (10.1186/s40623-022-01730-2).

Afsana, S., **R. Zhou**, Y. Miyazaki, E. Tachibana, D. Kumar Deshmukh, K. Kawamura, and **M. Mochida**, Abundance, chemical structure, and light absorption properties of humic-like substances (HULIS) and other organic fractions of forest aerosols in Hokkaido. *Sci Rep*., **12(1)**, 14379, Aug. 23, 2022 (10.1038/s41598-022-18201-z).

Ajello, M., K. Abe, F. Agostini, S. Ahmed Maouloud, M. Alfonsi, L. Althueser, B. Andrieu, E. Angelino, J. R. Angevaare, V. C. Antochi et al. (**H. Tajima**), The fourth catalog of active galactic nuclei detected by the Fermi Large Area Telescope: Data release 3. *Astrophys. J. Suppl. Ser*., **263(2)**, 24, Dec. 1, 2022 (10.3847/1538-4365/ac9523).

Akala, A., R. Afolabi, and **Y. Otsuka,** Responses of the African-European equatorial-, low-, mid-, and high-latitude ionosphere to geomagnetic storms of 2013, 2015 St Patrick's Days, 1 June 2013, and 7 October 2015. *Adv. Space Res*., in press (10.1016/j.asr.2022.10.029).

Alfonsi, L., N. Bergeot, P. Cilliers, G. De Franceschi, L. Baddeley, E. Correia, D. Di Mauro, C. Enell, M. Engebretson, R. Ghoddousi-Fard et al. (**P. Shreedevi**), Review of environmental monitoring by means of radio waves in the polar regions: From atmosphere to geospace. *Surv. Geophys.*, **43**, 1609–1698, Sep. 23, 2022 (10.1007/s10712-022-09734-z).

Aprile, E., K. Abe, F. Agostini, S. Ahmed Maouloud, M. Alfonsi, L. Althueser, E. Angelino, J. R. Angevaare, V. C. Antochi, D. Antón Martin et al. (**Y. Itow**, **S. Kazama**, **M. Kobayashi**), Application and modeling of an online distillation method to reduce krypton and argon in XENON1T. *Prog. Theor. Exp. Phys*., **2022(5)**, 053H01, May 27, 2022 (10.1093/ptep/ptac074).

Aprile, E., K. Abe, F. Agostini, S. Ahmed Maouloud, M. Alfonsi, L. Althueser, B. Andrieu, E. Angelino, J. R. Angevaare, V. C. Antochi et al. (**Y. Itow**, **S. Kazama**, **M. Kobayashi**), An approximate likelihood for nuclear recoil searches with XENON1T data. *Eur. Phys. J. C*, **82(11)**, 989, Nov. 3, 2022 (10.1140/epjc/s10052-022-10913-w).

Aprile, E., K. Abe, F. Agostini, S. Ahmed Maouloud, M. Alfonsi, L. Althueser, E. Angelino, J. R. Angevaare, V. C. Antochi, D. Antón Martin et al. (**Y. Itow**, **S. Kazama**, **M. Kobayashi**), Emission of single and few electrons in XENON1T and limits on light dark matter. *Phys. Rev. D*, **106(2)**, 022001, Jul. 5, 2022 (10.1103/PhysRevD.106.022001).

Aprile, E., K. Abe, F. Agostini, S. Ahmed Maouloud, M. Alfonsi, L. Althueser, B. Andrieu, E. Angelino, J. R. Angevaare, V. C. Antochi et al. (**Y. Itow**, **S. Kazama**, **M. Kobayashi**), Double-weak decays of124 Xe and 136Xe in the XENON1T and XENONnT experiments. *Phys. Rev. C*, **106(2)**, 024328, Aug. 26, 2022 (10.1103/PhysRevC.106.024328).

Aprile, E., K. Abe, F. Agostini, S. Ahmed Maouloud, M. Alfonsi, L. Althueser, E. Angelino, J. R. Angevaare, V. C. Antochi, D. Antón Martin et al. (**Y. Itow**, **S. Kazama**, **M. Kobayashi**), Material radiopurity control in the XENONnT experiment. *Eur. Phys. J. C*, **82(7)**, 599, Jul. 2022 (10.1140/epjc/s10052-022-10345-6).

Aprile, E., K. Abe, F. Agostini, S. Ahmed Maouloud, L. Althueser, B. Andrieu, E. Angelino, J. R. Angevaare, V. C. Antochi, D. Antón Martin et al. (**Y. Itow**, **S. Kazama**, **M. Kobayashi**), Search for new physics in electronic recoil data from XENONnT. *Phys. Rev. Lett.*, **129(16)**, 161805, Oct. 14, 2022 (10.1103/PhysRevLett.129.161805).

Bachelet, E., Y. Tsapira, A. Gould, R. A. Street, D. P. Bennett, M. P. G. Hundertmark, V. Bozza, D. M. Bramich, A. Cassan, M. Domonik, et al. (**F. Abe, H. Fujii**, **Y. Itow**, **Y. Matsubara**), MOA-2019-BLG-008Lb: A new microlensing detection of an object at the planet/brown dwarf boundary. *Astron. J.*, **164(3)**, 75, Sep. 2022 (10.3847/1538-3881/ac78ed).

Baker, S., A. Starr, J. van der Lubbe, A. Doughty, G. Knorr, S. Conn, S. Lordsmith, L. Owen, A. Nederbragt, S Hemming et al. (**M. Yamane**), Persistent influence of precession on northern ice sheet variability since the early Pleistocene. *Science*, **376**, 6596, May 26, 2022 (10.1126/science.abm4033).

Bastian, T. S., M. Shimojo, M. Bárta, S. M. White, and **K. Iwai**, Solar observing with the Atacama large millimeter-submillimeter array. *Front. Astron. Space Sci*., **9**, 977368, Oct. 17, 2022 (10.3389/fspas.2022.977368).

Batbold, C., K. Yumimoto, S. Chonokhuu, B. Byambaa, B. Avirmed, S. Ganbat, N. Kaneyasu, **Y. Matsumi**, T. J. Yasunari, K. Taniguchi et al., Spatiotemporal dispersion of local-scale dust from the Erdenet mine in Mongolia detected by Himawari-8 geostationary satellite. *SOLA*, **18**, 225–230, Oct. 28, 2022 (10.2151/sola.2022-036).

Bhattacharya, S., L. Lefevre, **H. Hayakawa**, M. Jansen, and F. Clette, Scale transfer in 1849: Heinrich Schwabe to Rudolf Wolf. *Sol. Phys*., **298(1)**, 12, Jan. 2023 (10.1007/s11207-022-02103-4).

Behrens, B. C., Y. Yokoyama, Y. Miyairi, A. D. Sproson, **M. Yamane**, F. J. Jimenez-Espejo, R. M. McKay, K. M. Johnson, C. Escutia, and R. B. Dunbar, Beryllium isotope variations recorded in the Adelie Basin, East Antarctica reflect Holocene changes in ice dynamics, productivity, and scavenging efficiency. *Quaternary Science Advances*, **7**, 100054, Jul. 2022 (10.1016/j.qsa.2022.100054).

Bezrukova, E.V., S. A. Reshetova, A. V. Tetenkin, P. E. Tarasov, and **C. Leipe**, The Early Neolithic-Middle Bronze Age environmental history of the Mamakan archaeological area, Eastern Siberia. *Quat. Int*., **623**, 159–168, Jun. 20, 2022 (10.1016/j.quaint.2021.12.006).

Caputo, R., M. Ajello, C. Kierans, J. Perkins, J. Racusin, L. Baldini, M. Barring, E. Bissaldi, E. Burns, N. Cannady et al. (**H. Tajima**), All-sky Medium Energy Gamma-ray Observatory eXplorer mission concept. *J. Astron. Telesc. Instrum. Syst.*, **8(4)**, 044003, Oct. 1, 2022 (10.1117/1.JATIS.8.4.044003).

Chanadda, K., **Y. Mino**, V. Gunboa, and A. Buranapratheprat, Fluxes of organic carbon Settled in the seagrass area at Khung Kraben Bay, Chanthaburi province, Thailand. *Journal of Fisheries and Environment*, **46(3)**, 210–220, Dec. 1, 2022.

Chandra, N., P. K. Patra, Y. Niwa, A. Ito, Y. Iida, D. Goto, S. Morimoto, **M. Kondo**, M. Takigawa, T. Hajima, and M. Watanabe, Estimated regional CO_2 flux and uncertainty based on an ensemble of atmospheric CO_2 inversions. *Atmos. Chem. Phys*., **22(14)**, 9215–9243, Jun. 18, 2022 (10.5194/acp-22-9215-2022).

Chen, L., **K. Shiokawa**, **Y. Miyoshi**, **S. Oyama**, **C.-W. Jun**, Y. Ogawa, K. Hosokawa, **Y. Inaba**, Y. Kazama, S. Y. Wang et al. (**T. F. Chang**, **T. Hori**, **S. Nakamura**, **M. Kitahara**), Observation of source plasma and field variations of a substorm brightening aurora at L ~6 by a ground-based camera and the Arase satellite on 12 October 2017. *J. Geophys. Res. Space Phys*., **127(11)**, e2021JA030072, Nov. 2022 (10.1029/2021JA030072).

Clette, F., L. Lefèvre, T. Chatzistergos, **H. Hayakawa**, V. Carrasco, R. Arlt, E. Cliver, T. Dudok de Wit, T. Friedli, N. Karachik et al., Recalibration of the sunspot-number: Status report. *Sol. Phys.*, **298(3)**, 44, Mar. 2023 (10.1007/s11207-023-02136-3).

Cordwell, A. J., N. J. Rattenbury, M. T. Bannister, P. Cowan, **F. Abe**, R. Barry, D. P. Bennett, A. Bhattacharya, I. A. Bond et al. (**Y. Itow**, **Y. Matsubara**, **Y. Muraki**), Asteroid lightcurves from the MOA-II survey: a pilot study. *Mon. Not. Roy. Astron. Soc.* , **514(2)**, 3098–3112, Aug. 2022 (10.1093/mnras/stac674).

Deng, Y., H. Fujinari, H. Yai, K. Shimada, Y. Miyazaki, E. Tachibana, D. K. Deshmukh, K. Kawamura, **T. Nakayama**, S. Tatsuta et al. (**S. Ohata**, **M. Mochida),** Offline analysis of the chemical composition and hygroscopicity of submicrometer aerosol at an Asian outflow receptor site and comparison with online measurements. *Atmos. Chem. Phys.*, **22(8)**, 5515–5533, May 3, 2022 (10.5194/acp-22-5515-2022).

Deng, Z., F. Xiao, Q. Zhou, S. Zhang, S. Liu, Q. Yang, J. Tang, A. Kumamoto, **Y. Miyoshi**, Y. Nakamura et al. (**S. Nakamura**), Direct evidence for auroral kilometric radiation propagation into radiation belts based on Arase spacecraft and Van Allen Probe B. *Geophys. Res. Lett*., **49(19)**, e2022GL100860, Oct. 16, 2022 (10.1029/2022GL100860).

Dissauer, K., **K. D. Leka**, and E. L. Wagner, Properties of Flare-imminent versus flare-quiet active regions from the chromosphere through the corona. I. Introduction of the AIA Active Region Patches (AARPs). *Astrophys. J.*, **942(2)**, 83, Jan. 16,

2023 (10.3847/1538-4357/ac9c06).

Elliott, S. S., A. W. Breneman, C. Colpitts, J. M. Pettit, C. A. Cattell, A. J. Halford, M. Shumko, J. Sample, A. T. Johnson, **Y. Miyoshi** et al. (**S. Nakamura**, **T. Hori**, **K. Shiokawa**), Quantifying the size and duration of a microburst-producing chorus region on 5 December 2017. *Geophys. Res. Lett*., **49(15)**, e2022GL099655, Aug. 16, 2022 (10.1029/2022GL099655).

Enami, M., T. Taguchi; Y. Kouketsu; K. Michibayashi, and T. Nishiyama, Formation process of Al-rich calcium amphibole in quartz-bearing eclogites from The Sulu Belt, China. *Am. Miner*., **107(8)**, 1582–1597, Aug. 2022 (10.2138/am-2022-7996).

Endo, E., and **C. Leipe**, The onset, dispersal and crop preferences of early agriculture in the Japanese archipelago as derived from seed impressions in pottery. *Quat. Int.*, **623**, 35–49, Jun. 20, 2022 (10.1016/j.quaint.2021.11.027).

Fallows, R. A., **K. Iwai**, B.V. Jackson, P. Zhang, M. M. Bisi, and P. Zucca, Application of novel interplanetary scintillation visualisations using LOFAR: A case study of merged CMEs from September 2017. *Adv. Space Res*., in press (10.1016/j.asr.2022.08.076).

Fujinami, H., T. Sato, **H. Kanamori**, and **M. Kato,** Nocturnal southerly moist surge parallel to the coastline over the western Bay of Bengal. *Geophys. Res. Lett*., **49(18)**, e2022GL100174, Sep. 28, 2022 (10.1029/2022GL100174).

Gabrielse, C., J. H. Lee, S. Claudepierre, D. Walker, P. O'Brien, J. Roeder, Y. Lao, J. Grovogui, D. L. Turner, A. Runov et al. (**Y. Miyoshi**), Radiation Belt Daily Average Electron flux model (RB-Daily-E) from the seven-year Van Allen Probes mission and its application to interpret GPS on-orbit solar array degradation Space. *Space Weather*, **20(11)**, e2022SW003183, Nov. 2022 (10.1029/2022SW003183).

Gholipour, S., H. Azizi, F. Masoudi, Y. Asahara, and **M. Minami**, S-type like granites and felsic volcanic rocks in the Mahabad area, NW Iran: Late Neoproterozoic extensional tectonics follow collision on the northern boundary of Gondwana. *Lithos*, **416**, 106658, May 2022 (10.1016/j.lithos.2022.106658).

Gille-Petzoldt, J., K. Gohl, G. Uenzelmann-Neben, J. Grützner, J. P. Klagesand J. S. Wellner, A. Klaus, D. Kulhanek, T. Bauersachs, S. M. Bohaty et al. (**M. Yamane**). West Antarctic Ice Sheet dynamics in the Amundsen Sea sector since the Late Miocene—tying IODP Expedition 379 results to seismic data. *Front. Earth Sci.*, **10**, 976703, Dec. 21, 2022 (10.3389/feart.2022.976703).

Gould, A., C. Han, W. Zang, H. Yang, K.-H. Hwang, A. Udalski, I. A. Bond, M. D. Albrow, S.-J. Chung, Y. K. Jung et al. (**F. Abe**, **H. Fujii**, **Y. Matsubara**, **Y. Muraki**), Systematic KMTNet planetary anomaly search V. Complete sample of 2018 prime-field. *Astron. Astrophys*., **664**, A13, Aug. 2022 (10.1051/0004-6361/202243744).

Grimes, E. W., B. Harter, N. Hatzigeorgiu, A. Drozdov, J. W. Lewis, V. Angelopoulos, X. Cao, X. Chu, **T. Hori**, S. Matsuda et al. (**C.-W. Jun**, **S. Nakamura**, **N. Kitahara**, **T. Segawa**, **Y. Miyoshi**), The Space Physics Environment Data Analysis System in Python. *Front. Astron. Space Sci*., **9**, 1020815, Oct. 6, 2022 (10.3389/fspas.2022.1020815).

Han, C., D. Kim, A. Gould, A. Udalski, I. A. Bond, V. Bozza, Y. K. Jung, M. D. Albrow, S.-J. Chung, K.-H. Hwang et al. (**F. Abe**, **H. Fujii**, **Y. Itow**, **Y. Matsubara**), Four sub-Jovian-mass planets detected by high-cadence microlensing surveys. *Astron. Astrophys*., **664**, A33, Aug. 2022 (10.1051/0004-6361/202243484).

Han, C., Y.-H. Ryu, I.-G. Shin, Y. K. Jung, D. Kim, Y. Hirao, V. Bozza, M. D. Albrow, W. Zang, A. Udalski et al. (**F. Abe**, **H. Fujii**, **Y. Matsubara**, **Y. Muraki**, **Y. Itow**), Brown dwarf companions in microlensing binaries detected during the 2016-2018 seasons. *Astron. Astrophys*., **667**, A64, Nov. 23, 2022 (10.1051/0004-6361/202244186).

Han, C., A. Gould, I. A. Bond, Y. K. Jung, M. D. Albrow, S.-J. Chung, K.-H. Hwang, Y.-H. Ryu, I.-G. Shin, Y. Shvartzvald et al. (**F. Abe**, **H. Fujii**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), KMT-2021-BLG-1077L: The fifth confirmed multiplanetary system detected by microlensing. *Astron. Astrophys*., **662**, A70, Jun. 20, 2022 (10.1051/0004-6361/202243550).

Hartley, D., G. Cunningham, J. Ripoll, D. Malaspina, Y. Kasahara, **Y. Miyoshi**, S. Matsuda, **S. Nakamura**, F. Tsuchiya, M. Kitahara et al., Using Van Allen Probes and Arase observations to develop an empirical plasma density model in the inner zone. *J. Geophys. Res. Space Phys*., **128(3)**, e2022JA031012, Mar. 2023 (10.1029/2022JA031012).

Herald, A., A. Udalski, V. Bozza, P. Rota, I. A. Bond, J. C. Yee, S. Sajadian, P. Mroz, R. Poleski, J. Skoweon et al. (**F. Abe**, **H. Fujii**, **Y. Itow**, **Y. Matsubara, Y. Muraki**), Precision measurement of a brown dwarf mass in a binary system in the microlensing event OGLE-2019-BLG-0033/MOA-2019-BLG-035. *Astron. Astrophys*., **663**, A100, Jul. 2022 (10.1051/0004-6361/202243490).

Hayakawa, H., Y. Ebihara, and H. Hata, A review for Japanese auroral records on the three extreme space weather events around the International Geophysical Year (1957–1958). *Geosci. Data J.*, **10(1)**, 142–157, Jan. 2023 (10.1002/gdj3.140).

Hayakawa, H., K. Murata, and M. Sôma, The variable Earth's rotation in the 4th–7th centuries: New ΔT constraints from Byzantine eclipse records. *Publ. Astron. Soc. Pac*., **134**, 094401, Sep. 13, 2022 (10.1088/1538-3873/ac6b56).

Hayakawa, H., M. Soma, and R. Daigo, Analyses of historical solar eclipse records in Hokkaido Island in the 18–19th centuries. *Publ. Astron. Soc. Jpn*, **74(6)**, 1275−1286, Dec. 2022 (10.1093/pasj/psac064).

Hayakawa, H., K. Hattori, M. Sôma, T. Iju, B. P. Besser, and S. Kosaka, An overview of sunspot observations in 1727–1748. *Astrophys. J.*, **941(2)**, 151, Dec. 1, 2022 (10.3847/1538-4357/ac6671).

Hayakawa, H., D. Suzuki, S. Mathieu, L. Lefèvre, H. Takuma, and E. Hiei, Sunspot observations at Kawaguchi Science Museum: 1972–2013. *Geosci. Data J.*, **10(1)**, 87–98, Jan. 2023 (10.1002/gdj3.158).

Hayakawa, H., D. M. Oliveira, M. A. Shea, D. F. Smart, S. P. Blake, K. Hattori, A. T. Bhaskar, J. J. Curto, D. R. Franco, and Y. Ebihara, The extreme solar and geomagnetic storms on 1940 March 20–25. *Mon. Not. Roy. Astron. Soc*., **517(2)**, 1709−1723, Dec. 2022 (10.1093/mnras/stab3615).

Hazeyama, W., **N. Nishitani, T. Hori**, T. Nakamura, and S. Perwitasari, Statistical study of seasonal and solar activity dependence of nighttime MSTIDs occurrence using the SuperDARN Hokkaido pair of radars. *J. Geophys. Res. Space Phys.*, **127(4)**, e2021JA029965, Apr. 2022 (10.1029/2021JA029965).

Nanjo, S., **S. Nozawa**, M. Yamamoto, **T. Kawabata**, M. G. Johnsen, T. T. Tsuda, and K. Hosokawa, An automated auroral detection system using deep learning: real-time operation in Tromsø, Norway. *Sci Rep.*, **12(1)**, 8038, May 31, 2022 (10.1038/s41598-022-11686-8).

Hirata, H., **H. Fujinami**, **H. Kanamori**, Y. Sato, **M. Kato**, R. B. Kayastha, M. L. Shrestha, and K. Fujita, Multiscale processes leading to heavy precipitation in the eastern Nepal Himalayas. *J. Hydrometeorol.*, in press (10.1175/JHM-D-22-0080.1).

Hiyama, T., **H. Park**, K. Kobayashi, L. Lebedeva, and D. Gustafsson, Contribution of summer net precipitation to winter river discharge in permafrost zone of the Lena River basin. *J. Hydrol.*, **616**, 128797, Jan. 2023 (10.1016/j.jhydrol.2022.128797).

Horiuchi, K., S. Kato, K. Ohtani, **N. Kurita**, S. Tsutaki, F. Nakazawa, H. Motoyama, K. Kawamura, H. Tazoe, N. Akata et al., Spatial variations of ^{10}Be in surface snow along the inland traverse route of Japanese Antarctic Research Expeditions. *Nucl. Instrum. Methods Phys. Res. Sect. B-Beam Interact. Mater. Atoms*, **533**, 61–65, Dec. 15, 2022 (10.1016/j.nimb.2022.10.018).

Hotta, H., **K. Kusano**, and R. Shimada, Generation of solar-like differential rotation. *Astrophys. J.*, **933**, 199, Jul. 14, 2022 (10.3847/1538-4357/ac7395).

Ikenoue, T., S. Otosawa, M. C. Honda, M. Kitamura, **Y. Mino**, H. Narita, and T. Kobayashi, *Neocalanus cristatus* (Copepoda) from a deep sediment-trap: Abundance and implications for ecological and biogeochemical studies. *Front. Mar. Sci.*,

9, 884320, May 20, 2022 (10.3389/fmars.2022.884320).

Imai, R., and **N. Takahashi**, Analysis of the three-dimensional structure of the misocyclones generating waterspouts observed by Phased Array Weather Radar: Case study on 15 May 2017 in Okinawa Prefecture, Japan. *Remote Sens*., **14(21)**, 5293, Nov. 2022 (10.3390/rs14215293).

Imajo, S., **Y. Miyoshi**, K. Asamura, I. Shinohara, **M. Nosé**, **K. Shiokawa**, Y. Kasahara, Y. Kasaba, A. Matsuoka, S. Kasahara et al. (**T. Hori**, **M. Shoji**, **S. Nakamura**), Signatures of auroral potential structure extending through the near-equatorial inner magnetosphere. *Geophys. Res. Lett*., **49(10)**, e2022GL098105, May 28, 2022 (10.1029/2022GL098105).

Ishi, D., K. Ishikawa, **Y. Miyoshi**, N. Terada, and Y. Ezoe, Modeling of geocoronal solar wind charge exchange events detected with Suzaku. *Publ. Astron. Soc. Jpn*, **75(1)**, 128–152, Feb. 2023 (10.1093/pasj/psac095).

Ishizaka, J., M. Yang, N. Fujii, T. Katano, M. Hori, T. Mine, K. Saitoh, and H. Murakami, Use of AERONET-OC for validation of SGLI/GCOM-C products in Ariake Sea, Japan. *J. Oceanogr.*, **78(4)**, 291–309, Aug. 2022 (10.1007/s10872-022-00642-9).

Ito, M., and **H. Masunaga**, Process-level assessment of the iris effect over tropical oceans. *Geophys. Res. Lett*., **49(7)**, e2022GL097997, Apr. 16, 2022 (10.1029/2022GL097997).

Iyemori, T., M. Nishioka, **Y. Otsuka**, and **A. Shinbori**, A confirmation of vertical acoustic resonance and field-aligned current generation just after the 2022 Hunga Tonga Hunga Ha'apai volcanic eruption, *Earth Planets Space*, **74(1)**, 103, Jun. 30, 2022 (10.1186/s40623-022-01653-y).

Iwai, K., R. A. Fallows, M. M. Bisi, D. Shiota, B. V. Jackson, **M. Tokumaru**, and **K. Fujiki**, Magnetohydrodynamic simulation of coronal mass ejections using interplanetary scintillation data observed from radio sites ISEE and LOFAR, *Adv. Space Res*., in press (10.1016/j.asr.2022.09.028).

Jackson, B. V., **M. Tokumaru**, R. A. Fallows, M. M. Bisi, **K. Fujiki**, I. Chashei, S. Tyul'bashev, O. Chang, D. Barnes, A. Buffington et al, Interplanetary scintillation (IPS) analyses during LOFAR campaign mode periods that include the first three Parker Solar Probe close passes of the Sun. *Adv. Space Res*., in press (10.1016/j.asr.2022.06.029).

Kanamori, H., M. Abe, **H. Fujinami**, and **T. Hiyama**, Impacts of global warming on summer precipitation trend over northeastern Eurasia during 1990–2010 using large-ensemble experiments. *Int. J. Climatol*., **43(1)**, 615–631, Jan. 2023 (10.1002/joc.7798).

Kaneko, T., H. Hotta, S. Toriumi, and **K. Kusano**, Impact of subsurface convective flows on the formation of sunspot magnetic field and energy build-up. *Mon. Not. Roy. Astron. Soc*., **517(2)**, 2775–2786, Oct. 19, 2022 (10.1093/mnras/stac2635).

Kawai, K., **K. Shiokawa**, **Y. Otsuka**, **S. Oyama**, M. G. Connors, Y. Kasahara, Y. Kasaba, S. Nakamura, F. Tsuchiya, A. Kumamoto et al. (**A. Shinbori**, **Y. Miyoshi),** Multi-event analysis of magnetosphere-ionosphere coupling of nighttime medium-scale traveling ionospheric disturbances from the ground and the Arase satellite. *J. Geophys. Res. Space Phys.*, **128(2)**, e2022JA030542. Feb. 2023 (10.1029/2022JA030542).

Kawai, T., and **S. Imada**, Factors that determine the power-law index of an energy distribution of solar flares. *Astrophys. J.*, **931(2)**, 113, Jun. 1, 2022 (10.3847/1538-4357/ac6aca).

Kawana, K., Y. Miyazaki, Y. Omori, H. Tanimoto, S. Kagami, K. Suzuki, Y. Yamashita, J. Nishioka, **Y. Deng**, H. Yai, and **M. Mochida,** Number-size distribution and CCN activity of atmospheric aerosols in the western North Pacific during spring pre-bloom period: Influences of terrestrial and marine sources. *J. Geophys. Res. Atmos*., **127(19)**, e2022JD036690, Oct. 16, 2022 (10.1029/2022JD036690).

Kawashima, O., N. Yanase, Y. Okitsu, **M. Hirahara**, Y. Saito, Y. Karouji, N. Yamamoto, S. Yokota, and S. Kasahara, Development of an electron impact ion source with high ionization efficiency for future planetary missions. *Planet. Space Sci.*, **220**,

105547, Oct. 1, 2022 (10.1016/j.pss.2022.105547).

Kikuchi, T., K. K. Hashimoto, T. Tanaka, Y. Nishimura, and T. Nagatsuma, Middle latitude geomagnetic disturbances caused by Hall and Pedersen current circuits driven by prompt penetration electric fields. *Atmosphere*, **13(4)**, 580 Apr. 4, 2022 (10.3390/atmos13040580).

Kikuchi, T., T. Araki, K. K. Hashimoto, Y. Ebihara, T. Tanaka, Y. Nishimura, G. Vichare, A. K. Sinha, J. Chum, K. Hosokawa et al., Instantaneous achievement of the Hall and Pedersen-Cowling current circuits in northern and southern hemispheres during the geomagnetic sudden commencement on 12 May 2021. *Front. Astron. Space Sci*., **9**, 879314, May 31, 2022 (10.3389/fspas.2022.879314).

Kitahara, M., S. Matsuda, Y. Katoh, H. Kojima, Y. Kasahara; **Y. Miyoshi**, **S. Nakamura**, and M. Hikishima, A calibration method of short-time waveform signals passed through linear time-invariant systems: 1. Methodology and simple examples. *Radio Sci*., **57(9)**, e2022RS007454, Sep. 2022 (10.1029/2022RS007454).

Kitamura, N., T. Amano, Y. Omura, S. A. Boardsen, D. J. Gershman, **Y. Miyoshi**, M. Kitahara, Y. Katoh, H. Kojima, **S. Nakamura**, **M. Shoji** et al., Direct observations of energy transfer from resonant electrons to whistler-mode waves in magnetosheath of Earth. *Nat. Commun.*, **13(1)**, 6259, Oct. 28, 2022 (10.1038/s41467-022-33604-2).

Kobe, F., **C. Leipe**, A. A. Shchetnikov, P. Hoelzmann, J. Gliwa, P. Olschewski, T. Goslar, M. Wagner, E. V. Bezrukova, and P. E. Tarasov, Not herbs and forbs alone: pollen-based evidence for the presence of boreal trees and shrubs in Cis-Baikal (Eastern Siberia) derived from the Last Glacial Maximum sediment of Lake Ochaul. *J. Quat. Sci.*, **37(5)**, 868–883, Jul. 2022 (10.1002/jqs.3290).

Kobe, F., P. Hoelzmann, J. Gliwa, P. Olschewski, S. A. Peskov, A. A. Shchetnikov, G. A. Danukalova, E. M. Osipova, T. Goslar, **C. Leipe** et al., Lateglacial-Holocene environments and human occupation in the Upper Lena region of Eastern Siberia derived from sedimentary and zooarchaeological data from Lake Ochaul. *Quat. Int.*, **623**, 139–158, Jun. 20, 2022 (10.1016/j.quaint.2021.09.019).

Kondo, M., M. Sasakawa, T. Machida, M. Arshinov, and **T. Hiyama**, Autumn cooling paused increased CO_2 release in central Eurasia. *Nat. Clim. Chang*., in press (10.1038/s41558-023-01625-4).

Krikunova, A. I., N. A. Kostromina, L. A. Savelieva, D. S. Tolstobrov, A. Y. Petrov, T. W. Long, F. Kobe, **C. Leipe**, and P. E. Tarasov, Late- and postglacial vegetation and climate history of the central Kola Peninsula derived from a radiocarbon-dated pollen record of Lake Kamenistoe. *Paleogeogr. Paleoclimatol. Paleoecol*., **603**, 111191, Oct. 1, 2022 (10.1016/j.palaeo.2022.111191).

Kubota, K., K. Sakai, K. Ohkushi, T. Higuchi, K. Shirai, and **M. Minami**, Salinity, oxygen isotope, hydrogen isotope, and radiocarbon of coastal seawater of North Japan. *Geochem. J*., **56(6)**, 240–249, Dec. 15, 2022 (10.2343/geochemj.GJ22021).

Kurotsuchi, Y., K. Sekiguchi, S. Konno, T. T. Huyen, Y. Fujitani, **Y. Matsumi**, K. Kumagai, N. T. Dung, L. B. Thuy, N. T. T. Thuy, and P. C. Thuy, Size-segregated chemical compositions of particulate matter including PM0.1 in northern Vietnam, a highly polluted area where notable seasonal episodes occur. *Atmos. Pollut. Res*., **13(8)**, 101478, Aug. 2022 (10.1016/j.apr.2022.101478).

Kuwata, H., N. Akata, K. Okada, M. Tanaka, H. Tazoe, **N. Kurita**, N. Otashiro, R. Negami, T. Suzuki, Y. Tamakuma et al., Monthly precipitation collected at Hirosaki, Japan: Its tritium concentration and chemical and stable isotope compositions. *Atmosphere*, **13(5)**, 848, May 23, 2022 (10.3390/atmos13050848).

Lam, C. Y., J. R. Lu, A. Udalski, I. Bond, D. P. Bennett, J. Skowron, P. Mroz, R. Poleski, T. Sumi, M. K. Szymanski et al. (**F. Abe**, **H. Fujii**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), An isolated mass-gap black hole or neutron star detected with

astrometric microlensing. *Astrophys. J. lett*., **933(1)**, L23, Jul. 2022 (10.3847/2041-8213/ac7442).

Lam, C. Y., J. R. Lu, A. Udalski, I. Bond, D. P. Bennett, J. Skowron, P. Mroz, R. Poleski, T. Sumi, M. K. Szymanski et al. (**F. Abe**, **H. Fujii**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), Supplement: "An isolated mass-gap black hole or neutron star detected with astrometric microlensing" (2022, ApJL, 933, L23). *Astrophys. J. Suppl. Ser.*, **260(2)**, 55, Jun. 2022 (10.3847/1538-4365/ac7441).

Luang-on, J., **J. Ishizaka**, A. Buranapratheprat, J. Phaksopa, J. I. Goes, E. de Raús Maúre, E. Siswanto, Y. Zhu, Q. Xu, P. Nakornsantiphap et al., MODIS-derived green Noctiluca blooms in the upper Gulf of Thailand: Algorithm development and seasonal variation mapping. *Front. Mar. Sci*., **10**, Feb. 27, 2023 (10.3389/fmars.2023.1031901).

Lee, W. C., **Y. Deng**, **R. Zhou**, M. Itoh, **M. Mochida**, and M. Kuwata, Water solubility distribution of organic matter Accounts for the Discrepancy in hygroscopicity among sub- and supersaturated humidity regimes. *Environ. Sci. Technol*, **56(24)**, 17924–17935, Nov. 8, 2022 (10.1021/acs.est.2c04647).

Leenawarat, D., **J. Luang-on**, A. Buranapratheprat, and **J. Ishizaka**, Influences of tropical monsoon and El Niño Southern Oscillations on surface chlorophyll-a variability in the Gulf of Thailand. *Front. Clim.*, **4**, 936011, Aug. 30, 2022 (10.3389/fclim.2022.936011).

Leipe, C., J.-C. Lu, K.-A. Chi, S.-M. Lee, H.-C. Yang, and M. Wagner, Archaeobotanical evidence of plant cultivation from the Sanbaopi site in south-western Taiwan during the Late Neolithic and Metal Age. *Holocene*, **33(2)**, 131–146, Feb. 2023 (10.1177/09596836221131689).

Leipe, C., J.-C. Lu, K.-A. Chi, S.-M. Lee, H.-C. Yang, M. Wagner, and P. E. Tarasov, Evidence for cultivation and selection of azuki (Vigna angularis var. angularis) in prehistoric Taiwan sheds new light on its domestication history. *Quat. Int.*, **623**, 83–93, Jun. 20, 2022 (10.1016/j.quaint.2021.06.032).

Leka, K. D., K. Dissauer, G. Barnes, and E. L. Wagner, Properties of flare-imminent versus flare-quiet active regions from the chromosphere through the Corona. II. Nonparametric Discriminant Analysis Results from the NWRA Classification Infrastructure (NCI). *Astrophys. J.*, **942(2)**, 84, Jan. 16, 2023 (10.3847/1538-4357/ac9c04).

Leka, K. D., E. L. Wagner, A. B. Griñón-Marín, V. Bommier, and R. Higgins, On identifying and mitigating bias in inferred measurements for solar vector magnetic-field data. *Sol. Phys*., **297(9)**, 121, Sep. 14, 2022 (10.1007/s11207-022-02039-9).

Liu, J., **K. Shiokawa**, **S. Oyama**, **Y. Otsuka**, **C.-W. Jun**, **M. Nosé**, T. Nagatsuma, K. Sakaguchi, A. Kadokura, M. Ozaki et al. (**N. Nishitani**), A statistical study of longitudinal extent of Pc1 pulsations using seven PWING ground stations at subauroral latitudes. *J. Geophys. Res. Space Phys*., **128(1)**, e2021JA029987, Jan. 2023 (10.1029/2021JA029987).

Long, T. W., H. S. Chen, **C. Leipe**, M. Wagner, and P. E. Tarasov, Modelling the chronology and dynamics of the spread of Asian rice from ca. 8000 BCE to 1000 CE. *Quat. Int.*, **623**, 101–109, Jun. 20, 2022 (10.1016/j.quaint.2021.11.016).

Luang-on, J., **J. Ishizaka**, A. Buranapratheprat, J. Phaksopa, J. I. Goes, E. de Raús Maúre, E. Siswanto, Y. Zhu, Qi. Xu, P. Nakornsantiphap et al., MODIS-derived green Noctiluca blooms in the upper Gulf of Thailand: Algorithm development and seasonal variation mapping. *Front. Mar. Sci.*, **10**, 1031901, Feb. 27, 2023 (10.3389/fmars.2023.1031901).

Ma, Q., E. R. Sanchez, R. A. Marshall, J. Bortnik, P. M. Reyes, R. H. Varney, S. R. Kaeppler, **Y. Miyoshi**, A. Matsuoka, Y. Kasahara et al. (**T. Hori**, **S. Nakamura**, **C.-W. Jun**), Analysis of electron precipitation and ionospheric density enhancements due to hiss using incoherent scatter radar and Arase observations. *J. Geophys. Res. Space Phys*., **127(8)**, e2022JA030545, Aug. 2022 (10.1029/2022JA030545).

Machado, L. N., K. Abe, Y. Hayato, K. Hiraide, K. Ieki, M. Ikeda, J. Kameda, Y. Kanemura, R. Kaneshima, Y. Kashiwagi et al. (**Y. Itow**, **H. Menjo**, **K. Ninomiya**), Pre-supernova alert system for Super-Kamiokande. *Astrophys. J.*, **935(1)**, 40,

Aug. 10, 2022 (10.3847/1538-4357/ac7f9c).

Malik, A., S. G. Aggarwal, **S. Ohata**, T. Mori, Y. Kondo, P. R. Sinha, P. Patel, B. Kumar, K. Singh, D. Soni, and M. Koike, Measurement of black carbon in Delhi: Evidences of regional transport, meteorology and local sources for pollution episodes. *Aerosol Air Qual. Res*., **22(8)**, 220128, Aug. 2022 (10.4209/aaqr.220128).

Manninen, J., N. Kleimenova, **C. Martinez-Calderon**, L. Gromova, and T. Turunen, Unexpected VLF bursty-patches above 5 kHz: A review of long-duration VLF series observed at Kannuslehto, northern Finland. *Surv. Geophys*., in press (10.1007/s10712-022-09741-0).

Martinez-Calderon, C., J. K. Manninen, J. T. Manninen, and T. Turunen, Statistics of unusual naturally occurring VLF radio emissions termed bursty-patches observed at Kannuslehto, Finland. *J. Geophys. Res. Space Phys*., **128(1)**, e2022JA030792, Jan. 2023 (10.1029/2022JA030792).

Masunaga, H., The edge intensification of eastern Pacific ITCZ convection. *J. Clim.*, in press (10.1175/JCLI-D-22-0382.1).

Matsui, H., T. Mori, **S. Ohata**, N. Moteki, N. Ohshima, K. Goto-Azuma, M. Koike, and Y. Kondo, Contrasting source contributions of Arctic black carbon to atmospheric concentrations, deposition flux, and atmospheric and snow radiative effects. *Atmos. Chem. Phys.,* **22(13)**, 8989–9009, Jul. 12, 2022 (10.5194/acp-22-8989-2022).

Matsumoto, R., K. Abe, Y. Hayato, K. Hiraide, K. Ieki, M. Ikeda, J. Kameda, Y. Kanemura, R. Kaneshima, Y. Kashiwagi et al. (**Y. Itow**, **H. Menjo**, **K. Ninomiya**), Search for proton decay via $p \rightarrow u^{+}K^{0}$ in 0.37 megaton-years exposure of Super-Kamiokande. *Phys. Rev. D*, **106(7)**, 72003, Oct. 10, 2022 (10.1103/PhysRevD.106.072003).

Matsumoto, Y., and **Y, Miyoshi**, Soft X-ray imaging of magnetopause reconnection outflows under low plasma-β solar wind conditions. *Geophys. Res. Lett.*, **49(19)**, e2022GL101037, Oct. 16, 2022 (10.1029/2022GL101037).

McCollough, J., **Y. Miyoshi**, G. Ginet, W. Johnston, Y. Su, M. Starks, Y. Kasahara, H. Kojima, S. Matsuda, I. Shinohara et al., Space-to-space very low frequency radio transmission in the magnetosphere using the DSX and Arase satellites. *Earth Planets Space*, **74**, 64, Apr. 27, 2022 (10.1186/s40623-022-01605-6).

Miki, T., T. Kuronuma, **H. Kitagawa**, and Y. Kondo, Cave occupations in Southeastern Arabia in the second millennium BCE: Excavation at Mugharat al-Kahf, North-Central Oman, *Arab. Archaeol. Epigr.*, **33(1)**, 85–107, Nov. 2022 (10.1111/aae.12210).

Minami, M., R. Kuma, S. Asai, H. A. Takahashi, and H. Yoshida, ^{14}C dating of Holocene carbonate concretions collected in Nagoya Port area, central Japan. *J. Geol. Soc. Japan*, **128(1)**, 239–244, Nov. 3, 2022 (10.5575/geosoc.2022.0021).

Mino, Y., C. Sukigara, and **J. Ishizaka**, Enhanced oxygen consumption results in summertime hypoxia in Mikawa Bay, Japan. *Environ. Sci. Pollut. Res.*, **30**, 26120–26136, Feb. 2023 (10.1007/s11356-022-23850-8).

Mitsushima, R., K. Hosokawa, J. Sakai, **Y. Otsuka,** M. K. Ejiri, M. Nishioka, and T. Tsugawa, Propagation characteristics of sporadic E and medium-scale traveling ionospheric disturbances (MSTIDs): statistics using HF Doppler and GPS-TEC data in Japan. *Earth Planets Space*, **74**, 60, Apr. 24, 2022 (10.1186/s40623-022-01616-3).

Miyaka, F., M. Hakozaki, K. Kimura, F. Tokanai, T. Nakamura, M. Takeyama, and T. Moriya, Regional differences in carbon-14 data of the 993 CE cosmic ray event. *Front. Astron. Space Sci*., **9**, 886140, Jul. 4, 2022 (10.3389/fspas.2022.886140).

Miyoshi, Y., I. Shinohara, S. Ukhorskiy, S. Claudepierre, T. Mitani, T. Takashima, **T. Hori**, O. Santolik, I. Kolmasova, S. Matsuda et al. (**C.-W. Jun**, **M. Shoji**, **S. Nakamura**, **M. Kitahara**, **K. Shiokawa**, **M. Nosé**, **C. Martinez-Calderon)**, Collaborative research activities of the Arase and Van Allen Probes. *Space Sci. Rev*., **218(5)**, 38, Aug. 2022 (10.1007/s11214-022-00885-4).

Miyoshi, Y., Van Allen radiation belts: From Akebono to Arase. *J. Plasma Fusion Res,* **98(11)**, 484–490, Nov. 2022.

Miyoshi, Y., G. Ueno, **R. Yamamoto**, **S. Machida**, **M. Nose,** D. Shiota, and **S. Nakamura**, Forecasting auroral activity using

data assimilation. *Proceedings of the Institute of Statistical Mathematics*, **70(2)**, 153–163, Dec. 2022 (TOUKEI-D-22-00004R1).

Mogilevsky, M., D. Chugunin, A. Chernyshov, V. Kolpak, I. Moiseenko, Y. Kasahara, and **Y. Miyoshi**, Channeling of auroral kilometric radiation during geomagnetic disturbances. *Jetp Lett.*, **115(10)**, 602–207, Aug. 3, 2022 (10.1134/S0021364022600707).

Monterde-Andrade, F., L. X. González, J. F. Valdés-Galicia, O. G. Morales-Olivares, **Y. Muraki**, **Y. Matsubara**, T. Sako, K. Watanabe, S. Shibata, M. A. Sergeeva et al., Simulation of solar neutron flux in the Earth's atmosphere for three selected flares. *Astropart. Phys.*, **145**, 102780, Mar. 2, 2023 (10.1016/j.astropartphys.2022.102780).

Mori, M., K. Abe, Y. Hayato, K. Hiraide, K. Ieki, M. Ikeda, S. Imaizumi, J. Kameda, Y. Kanemura, R. Kaneshima, (**Y. Itow**, **H. Menjo**, **K. Ninomiya**, **T. Niwa**, **M. Tsukada**), Searching for supernova bursts in Super-Kamiokande IV. *Astrophys. J.*, **938(1)**, 35, Oct. 1, 2022 (10.3847/1538-4357/ac8f41).

Mori, T., Y. Kondo, K. Goto-Azuma, N. Moteki, A. Yoshida, K. Fukuda, Y. Ogawa-Tsukagawa, **S. Ohata**, and M. Koike, Measurement of number and mass size distributions of light-absorbing iron oxide aerosols in liquid water with a modified single-particle soot photometer. *Aerosol Sci. Technol.*, **57(1)**, 35–49, Jan. 2023 (10.1080/02786826.2022.2144113).

Moroda, Y., **K. Tsuboki**, S. Satoh, K. Nakagawa, T. Uchio and H. Kikuchi, Lightning bubbles caused by upward reflectivity pulses above precipitation cores of a thundercloud, *SOLA*, **18**, 110–115, Apr. 15, 2022 (10.2151/sola.2022-018).

Munakata, K., M. Kozai, C. Kato, Y. Hayashi, R. Kataoka, A. Kadokura, **M. Tokumaru**, R. R. S. Mendonça, E. Echer, A. Dal Lago et al., Large-amplitude bidirectional anisotropy of cosmic-ray intensity observed with worldwide networks of ground-based neutron monitors and muon detectors in 2021 November. *Astrophys. J.*, **938(1)**, 30, Oct. 10, 2022 (10.3847/1538-4357/ac91c5).

Murase, K., R. Kataoka, T. Nishiyama, K. Nishimura, T. Hashimoto, Y. Tanaka, A. Kadokura, Y. Tomikawa, M. Tsutsumi, Y. Ogawa et al. (**T. Hori**, **M. Shoji**, **Y. Miyoshi**), Mesospheric ionization during substorm growth phase. *J. Space Weather Space Clim.*, **12**, 18, Jun. 6, 2022 (10.1051/swsc/2022012).

Naito, H., **K. Shiokawa**, **Y. Otsuka**, **H. Fujinami**, **T. Tsuboi**, T. Sakanoi, A. Saito, and T. Nakamura, Three-dimensional Fourier analysis of atmospheric gravity waves and medium-scale traveling ionospheric disturbances observed in airglow images in Hawaii over three years. *J. Geophys. Res. Space Phys.*, **127(10)**, e2022JA030346, Oct. 2022 (10.1029/2022JA030346).

Nakamura, K., **K. Shiokawa**, **M. Nosé**, T. Nagatsuma, K. Sakaguchi, H. Spence, G. Reeves, H. O. Funsten, R. MacDowall, C. Smith et al., Multi-event study of simultaneous observations of isolated proton auroras at subauroral latitudes using ground all-sky imagers and the Van Allen Probes. *J. Geophys. Res. Space Phys.*, **127(9)**, e2022JA030455, Sep. 2022 (10.1029/2022JA030455).

Nakamura, T. K. M., W.-L. Teh, S. Zenitani, **T. Umeda**, M. Oka, H. Hasegawa, A. M. Veronig, and R. Nakamura, Spatial and time scaling of coalescing multiple magnetic islands. *Phys. Plasmas*, **30(2)**, 22902, Feb. 2023 (10.1063/5.0127107).

Nanjo, S., **S. Nozawa**, M. Yamamoto, **T. Kawabata**, M. Johnsen, T. Tsuda, and K. Hosokawa, An automated auroral detection system using deep learning: real-time operation in Tromsø, Norway. *Sci Rep.*, **12**, 8038, May 2022 (10.1038/s41598-022-11686-8).

Nasi, A., C. Katsavrias, I. A. Daglis, I. Sandberg, S. Aminalragia-Giamini, W. Li, **Y. Miyoshi**, H. Evans, T. Mitani, A. Matsuoka et al. (**T. Hori**), An event of extreme relativistic and ultra-relativistic electron enhancements following the arrival of consecutive corotating interaction regions: Coordinated observations by Van Allen Probes, Arase, THEMIS and Galileo satellites. *Front. Astron. Space Sci.*, **9**, 949788, Aug. 30, 2022 (10.3389/fspas.2022.949788).

Nishimoto, S., K. Watanabe, H. Jin, **T. Kawai**, S. Imada, T. Kawate, **Y. Otsuka**, **A. Shinbori**, T. Tsugawa, and M. Nishioka, Statistical analysis for EUV dynamic spectra and their impact on the ionosphere during solar flares. *Earth Planets Space*, **75(1)**, 30, Mar. 3, 2023 (10.1186/s40623-023-01788-6).

Nishimura, Y., E. Bruus, E. Karvinen, C. R. Martinis, A. Dyer, L. Kangas, H. K. Rikala, E. F. Donovan, **N. Nishitani**, and J. M. Ruohoniemi, Interaction between proton aurora and stable auroral red arcs unveiled by citizen scientist photographs. *J. Geophys. Res. Space Phys.*, **127(7)**, e2022JA030570, Jul. 1, 2022 (10.1029/2022JA030570).

Nose, M., T. Kawano, and H. Aoyama, Application of magneto-impedance (MI) sensor to geomagnetic field measurements. *J. Geophys. Res. Space Phys.*, **127(10)**, e2022JA030809, Oct. 1, 2022 (10.1029/2022JA030809).

Nozawa, S., N. Saito, T. Kawahara, S. Wada, T. T. Tsuda, **S. Maeda**, T. Takahashi, H. Fujiwara, V. L. Narayanan, **T. Kawabata**, and M. G. Johnsen. A statistical study of convective and dynamic instabilities in the polar upper mesosphere above Tromsø. *Earth Planets Space*, **75**, 22, Feb. 15, 2023 (10.1186/s40623-023-01771-1).

Ohishi, S., T. Miyoshi, and M. Kachi, An ensemble Kalman filter-based ocean data assimilation system improved by adaptive observation error inflation (AOEI). *Geosci. Model Dev.*, **15(24)**, 9057–9073, Dec. 20, 2022 (10.5194/gmd-15-9057-2022).

Ohishi, S., T. Hihara, **H. Aiki**, **J. Ishizaka**, Y. Miyazawa, M. Kachi, and T. Miyoshi, An ensemble Kalman filter system with the Stony Brook Parallel Ocean Modelv1.0. *Geosci. Model Dev.*, **15(22)**, 8395–8410, Nov. 18, 2022 (10.5194/gmd-15-8395-2022).

Olmschenk, G., D. P. Bennett, I. A. Bond, W. Zang, Y. K. Jung, J. C. Yee, E. Bachelet, **F. Abe**, R. K. Barry, A. Bhattacharya, **H. Fujii** et al. (**Y. Itow**, **Y. Matsubara**, **Y. Muraki**), MOA-2020-BLG-208Lb: Cool sub-Saturn-mass planet within predicted desert. *Astron. J.*, in press (10.3847/1538-3881/acbcc8).

Ondede, G. O., A. Rabiu, D. Okoh, P. Baki, J. Olwendo, **K. Shiokawa**, and **Y. Otsuka**, Relationship between geomagnetic storms and occurrence of ionospheric irregularities in the west sector of Africa during the peak of the 24th solar cycle. *Front. Astron. Space Sci.*, **9**, 969235, Nov. 17, 2022 (10.3389/fspas.2022.969235).

Oyama, S., H. Vanhamäki, L. Cai, A. Aikio, M. Rietveld, Y. Ogawa, T. Raita, M. Kellinsalmi, K. Kauristie, B. Kozelov, **A. Shinbori**, **K. Shiokawa**, T. T. Tsuda, and T. Sakanoi, Thermospheric wind response to a sudden ionospheric variation in the trough: event at a pseudo-breakup during geomagnetically quiet conditions. *Earth Planets Space*, **74(1)**, 154, Oct. 18, 2022 (10.1186/s40623-022-01710-6).

Ozaki, M., S. Yagitani, **K. Shiokawa**, Y. Tanaka, Y. Ogawa, K. Hosokawa, Y. Kasahara, Y. Ebihara, **Y. Miyoshi**, K. Imamura, R. Kataoka, S.-i. Oyama, T. Chida, and A. Kadokura, Slow contraction of flash aurora induced by an isolated chorus element ranging from lower-band to upper-band frequencies in the source region. *Geophys. Res. Lett.*, **49(9)**, e2021GL097597, May 16, 2022 (10.1029/2021GL097597).

Ozaki, M., **K. Shiokawa**, R. Kataoka, M. Mlynczak, L. Paxton, M. Connors, S. Yagitani, S. Hashimoto, **Y. Otsuka**, S. Nakahira, and I. Mann, Localized mesospheric ozone destruction corresponding to isolated proton aurora coming from Earth's radiation belt. *Sci Rep.*, **12(1)**, 16300, Oct. 11, 2022 (10.1038/s41598-022-20548-2).

Park, H., **T. Hiyama**, and K. Suzuki, Contribution of water rejuvenation induced by climate warming to evapotranspiration in a Siberian boreal forest. *Front. Earth Sci.*, **10**, 1037668, Oct. 31, 2022 (10.3389/feart.2022.1037668).

Pasquier, J. T., R. O. David, G. Freitas, R. Gierens, Y. Gramlich, S. Haslett, G. Li, B. Schäfer, K. Siegel, J. Wieder et al. (**S. Ohata**), The Ny-Ålesund aerosol cloud experiment (NASCENT): overview and first results. *Bull. Amer. Meteorol. Soc.*, **103(11)**, E2533–E2558, Nov. 11, 2022 (10.1175/BAMS-D-21-0034.1).

Pattanaik, D., S. Ahmad, M. Chakraborty, S. R. Dugad, U. D. Goswami, S. K. Gupta, B. Hariharan, Y. Hayashi, P. Jagadeesan,

A. Jain et al. (**Y. Muraki**), Validating the improved angular resolution of the GRAPES-3 air shower array by observing the Moon shadow in cosmic rays. *Phys. Rev. D*, **106(2)**, 022009, Jul. 29, 2022 (10.1103/PhysRevD.106.022009).

Ponomarenko, P. V., E. C. Bland, K. A. McWilliams, and **N. Nishitani**, On the noise estimation in Super Dual Auroral Radar Network data. *Radio Sci.*, **57(6)**, e2022RS007449, Jun 1, 2022 (10.1029/2022RS007449).

Porowski, C., M. Bzowski, and **M. Tokumaru**, On the general correlation between 3D solar wind speed and density model and solar proxies. *Astrophys. J. Suppl. Ser*., **264(1)**, 11, Jan. 1, 2023 (10.3847/1538-4365/ac9fd4).

Putri, D. P. S., Y. Kasahara, M. Ota, S. Matsuda, F. Tsuchiya, A. Kumamoto, A. Matsuoka, and **Y. Miyoshi**, A proposal for modification of plasmaspheric electron density profiles using characteristics of lightning whistlers. *Remote Sens*., **15(5)**, 1306, Feb. 26, 2023 (10.3390/rs15051306).

Qiaola, S., T. M. L. Nguyen, T. K. O. Ta, V. L. Nguyen, M. Gugliotta, Y. Saito, **H. Kitagawa**, R. Nakashima, and T. Tamura, Luminescence dating of Holocene sediment cores from a wave-dominated and mountainous river delta in central Vietnam. *Quat. Geochronol*., **70**, 101277, May 1, 2022 (10.1016/j.quageo.2022.101277).

Rubtsov, A., **M. Nosé**, A. Matsuoka, Y. Kasahara, A. Kumamoto, F. Tsuchiya, I. Shinohara, and **Y. Miyoshi**, Alfven velocity sudden increase as an indicator of the plasmapause. *J. Atmos. Sol.-Terr. Phys.*, in press (10.1016/j.jastp.2023.106040).

Rukundo, W., **K. Shiokawa**, A. Elsaid, O. AbuElezz, and A. Mahrous, A machine learning approach for total electron content (TEC) prediction over the northern anomaly crest region in Egypt. *Adv. Space Res*., in press (10.1016/j.asr.2022.10.052).

Saito, S., and **Y. Miyoshi**, Butterfly distribution of relativistic electrons driven by parallel propagating lower band whistler chorus waves. *Geophys. Res. Lett.*, **49(12)**, e2022GL099605, Jun. 28, 2022 (10.1029/2022GL099605).

Saito, T., S. Takano, N. Harada, **T. Nakajima**, E. Schinnerer, D. Liu, A. Taniguchi, T. Izumi, Y. Watanabe, K. Bamba et al., AGN-driven cold gas outflow of NGC 1068 characterized by dissociation-sensitive molecules. *Astrophys. J*., **935(2)**, 155, Aug. 23, 2022 (10.3847/1538-4357/ac80ff).

Sakojo, T., **S. Ohishi**, and T. Uda, dentification of Kuroshio meanderings south of Japan via a topological data analysis for sea surface height. *J. Oceanogr*., **78(6)**, 495–513, Dec. 2022(10.1007/s10872-022-00656-3).

Sakuma, K., S. Rachi, **G. Mizoguchi**, **T. Nakajima**, **A. Mizuno** and N. Sekiya, A superconducting dual-band bandpass filter for IF signals of multi-frequency millimeter-wave atmospheric spectrometer. *IEEE Trans. Appl. Supercond*., in press (10.1109/TASC.2023.3254482).

Sakurai, T., A. N. Wright, K. Takahashi, T. Elsden, Y. Ebihara, N. Sato, A. Kadokura, Y. Tanaka, and **T. Hori**, Poleward moving auroral arcs and Pc5 oscillations. *J. Geophys. Res. Space Phys*., **127(8)**, e2022JA030362, Aug. 2022 (10.1029/2022JA030362).

Sano, M., N. Pumijumnong, K. Fujita, M. Hakozaki, **F. Miyake**, and T. Nakatsuka, A wiggle-matched 297-yr tree-ring oxygen isotope record from Thailand: Investigating the ^{14}C offset induced by air mass transport from the Indian Ocean. *Radiocarbon*, in press (10.1017/RDC.2023.14).

Sarris, T. E., X. Li, H. Zhao, K. Papadakis, W. Liu, W. Tu, V. Angelopoulos, K.-H. Glassmeier, **Y. Miyoshi**, A. Matsuoka et al., Distribution of ULF wave power in magnetic latitude and local time using THEMIS and Arase measurements. *J. Geophys. Res. Space Phys.*, **127(10)**, e2022JA030469, Oct. 2022 (10.1029/2022JA030469).

Sato, K., **M. Minami**, S. Wakaki, and S. Nakano, Sr isotope ratios of Neogene to Quaternary igneous rocks in the border region between Gunma and Nagano Prefectures, central Japan：A reconnaissance on their distribution in time and space. *Bulletin of Gunma Museum of Natural History,* **27**, 49–60, Mar. 2023.

Sato, T., T. Nakamura, Y. Iijima, and **T. Hiyama**, Enhanced Arctic moisture transport toward Siberia in autumn revealed by tagged

moisture transport model experiment. *npj Clim. Atmos. Sci*., **5**, 91, Nov. 24, 2022 (10.1038/s41612-022-00310-1).

Sawaguchi, W., Y. Harada, S. Kurita, and **S. Nakamura**, Spectral properties of whistler-mode waves in the vicinity of the Moon: A statistical study with ARTEMIS. *J. Geophys. Res. Space Phys*., **127(9)**, e2022JA030582, Sep. 2022, (10.1029/2022JA030582).

Sekido, H., and **T. Umeda**, Relaxation of the Courant condition in the explicit Finite-Difference Time-Domain method with higher-degree differential terms. *IEEE Trans. Antennas Propag*., **71(2)**, 1630–1639, Feb. 2023 (10.1109/TAP.2023.3234097).

Sergusheva, E. A., **C. Leipe**, N. A. Klyuev, S. V. Batarshev, A. V. Garkovik, N. A. Dorofeeva, S. A. Kolomiets, E. B. Krutykh, S. S. Malkov, O. L. Moreva et al., Evidence of millet and millet agriculture in the Far East Region of Russia derived from archaeobotanical data and radiocarbon dating. *Quat. Int*., **623**, 50–67, Jun. 20 2022 (10.1016/j.quaint.2021.08.002).

Shi, X., D. Lin, W. Wang, J. B. H. Baker, J. M. Weygand, M. D. Hartinger, V. G. Merkin, J. M. Ruohoniemi, K. Pham, H. Wu et al (**N. Nishitani**), Geospace concussion: Global reversal of ionospheric vertical plasma drift in response to a sudden commencement. *Geophys. Res. Lett*., **49(19)**, e2022GL100014, Oct. 16, 2022 (10.1029/2022GL100014).

Shimojo, M., and **K. Iwai**, Over seven decades of solar microwave data obtained with Toyokawa and Nobeyama Radio Polarimeters. *Geosci. Data J*., **10(1)**, 114–129, Jan. 2023 (10.1002/gdj3.165).

Shin, I.-G., J. C. Yee, K.-H. Hwang, A. Gould, A. Udalski, I. A. Bond, M. D. Albrow, S.-J. Chung, C. Han, Y. K. Jung et al., (**F. Abe**, **H. Fujii**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), OGLE-2016-BLG-1093Lb: A sub-Jupiter-mass Spitzer planet located in the galactic bulge. *Astron. J.*, **163(6)**, 254, Jun. 2022 (10.3847/1538-3881/ac6513).

Shin, I.-G., J. C. Yee, A. Gould, K.-H. Hwang, H Yang, I. Bond, M. Albrow, S.-J. Chung, C. Han, Y. Jung et al. (**F. Abe**, **H. Fujii**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), Mass production of 2021 KMTNet microlensing planets. III. analysis of three giant planets. *Astron. J*., **165(1)**, 8, Jan. 2023 (10.3847/1538-3881/ac9d93).

Shinbori, A., **Y. Otsuka**, **T. Sori**, M. Nishioka, S. Perwitasari, T. Tsuda, and **N. Nishitani**, Electromagnetic conjugacy of ionospheric disturbances after the 2022 Hunga Tonga-Hunga Ha'apai volcanic eruption as seen in GNSS-TEC and SuperDARN Hokkaido pair of radars observations. *Earth Planets Space*, **74**, 106, Jul. 13, 2022 (10.1186/s40623-022-01665-8).

Shiokawa, K., A story of developing the idea of plasma-sheet flow braking. *Front. Astron. Space Sci*., **9**, 957776, Aug. 8, 2022 (10.3389/fspas.2022.957776).

Shoda, M., **K. Iwai**, and D. Shiota, Testing the Alfven-wave model of the solar wind with interplanetary scintillation. *Astrophys. J.*, **928(2)**, 130, Apr. 1, 2022 (10.3847/1538-4357/ac581e).

Shumko, M., B. Gallardo-Lacourt, A. J. Halford, L. W. Blum, J. Liang, **Y. Miyoshi**, K. Hosokawa, E. Donovan, I. R. Mann, K. Murphy et al., Proton aurora and relativistic electron microbursts scattered by electromagnetic ion cyclotron waves. *Front. Astron. Space Sci.*, **9**, 975123, Aug. 15, 2022 (10.3389/fspas.2022.975123).

Silva, S. I., C. Ranc, D. P. Bennett, I. A. Bond, W. Zang, **F. Abe**, R. K. Barry, A. Bhattacharya, **H. Fujii**, A. Fukui et al. (**Y. Itow, Y. Matsubara**, **Y. Muraki**), MOA-2020-BLG-135Lb: A new neptune-class planet for the extended MOA-II exoplanet microlens statistical analysis. *Astron. J.*, **164(3)**, 118, Sep. 2022 (10.3847/1538-3881/ac82b8).

Sinevich, A. A., A. A. Chernyshov, D. V. Chugunin, A. V. Oinats, L. B. N. Clausen, W. J. Miloch, **N. Nishitani**, and M. M. Mogilevsky, Small-scale irregularities within polarization jet/SAID during geomagnetic activity. *Geophys. Res. Lett.*, **49(8)**, e2021GL097107, Apr. 28, 2022(10.1029/2021GL097107).

Sivakandan, M., C. Martinis, **Y. Otsuka**, J. L. Chau, J. Norrell, J. Mielich, J. Federico Conte, C. Stolle, J. Rodríguez-Zuluaga, **A. Shinbori** et al., On the role of E-F region coupling in the generation of nighttime MSTIDs during summer and

equinox: Case studies over northern Germany. *J. Geophys. Res. Space Phys*., **127(5)**, e2021JA030159, May 2022 (10.1029/2021JA030159).

Song, H., J. Park, Y. Jin, **Y. Otsuka**, S. Buchert, J. Lee, and Y. Yi, Tandem observations of nighttime mid-latitude topside ionospheric perturbations. *Space Weather*, **21(2)**, e2022SW003312, Feb. 2023 (10.1029/2022SW003312).

Sori, T., **Y. Otsuka**, **A. Shinbori**, M. Nishioka, and S. Perwitasari, Geomagnetic conjugacy of plasma bubbles extending to mid-latitudes during a geomagnetic storm on March 1, 2013. *Earth Planets Space*, **74**, 120, Aug. 6, 2022 (10.1186/s40623-022-01682-7).

Sori, T., **A. Shinbori**, **Y. Otsuka**, M. Nishioka, and S. Perwitasari, Dependence of ionospheric responses on solar wind dynamic pressure during geomagnetic storms using global long-term GNSS-TEC data. *J. Geophys. Res. Space Phys*., **128(3)**, e2022JA030913, Mar. 2023 (10.1029/2022JA030913).

Sori, T., **A. Shinbori**, **Y. Otsuka**, T. Tsugawa, M. Nishioka, and A. Yoshioka, Generation mechanisms of plasma density irregularity in the equatorial ionosphere during a geomagnetic storm on 21–22 December 2014. *J. Geophys. Res. Space Phys.*, **127(5)**, e2021JA030240, May 2022 (10.1029/2021JA030240).

Specht, D., R. Poleski, M. T. Penny, E. Kerins, I. McDonald, C.-U. Lee, A. Udalski, I. A. Bond, Y. Shvartzvald, W. Zang et al. (**F. Abe**, **H. Fujii**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), Kepler K2 Campaign 9: II. First space-based discovery of an exoplanet using microlensing. *Mon. Not. Roy. Astron. Soc.*, **520(4)**, 6350–6366, Feb. 22, 2023 (10.1093/mnras/stad212).

Spiegl, T. C., S. Yoden, U. Langematz, T. Sato, R. Chhin, S. Noda, **F. Miyake**, **K. Kusano**, K. Schaar, and M. Kunze, Modeling the transport and deposition of ^{10}Be produced by the strongest solar proton event during the Holocene. *J. Geophys. Res. Atmos.*, **127(13)**, e2021JD035658, Jul. 16, 2022 (10.1029/2021JD035658).

Srisamoodkham, W., **K. Shiokawa**, **Y. Otsuka**, K. Ansari, and P. Jamjareegulgarn, Detecting equatorial plasma bubbles on all-sky imager images using convolutional neural network. in *Communication and Intelligent Systems, Lecture Notes in Networks and Systems*, edited by H. Sharma, V. Shrivastava, K. Kumari Bharti, L. Wang, **461**, 481–487, Springer, Singapore, Aug. 19, 2022 (10.1007/978-981-19-2130-8_38).

Stober, G., A. Liu, A. Kozlovsky, Z. Qiao, A. Kuchar, C. Jacobi, C. Meek, D. Janches, G. Liu, M. Tsutsumi et al. (**S. Nozawa**), Meteor radar vertical wind observation biases and mathematical debiasing strategies including the 3DVAR+DIV algorithm. *Atmos. Meas. Tech*., **15(19)**, 5769–5792, Oct. 13, 2022 (10.5194/amt-15-5769-2022).

Sugo, S., S. Kasahara, **Y. Miyoshi**, Y. Katoh, K. Keika, S. Yokota, **T. Hori**, Y. Kasahara, S. Matsuda, A. Matsuoka et al. (**S. Nakamura**), Direct observations of energetic electron scattering and precipitation due to whistler-mode waves in the dayside high-density regions. *J. Geophys. Res. Space Phys.*, **128(3)**, e2022JA030992, Mar. 2023 (10.1029/2022JA030992).

Sukigara, C., S. Otosaka, N. Horimoto-Miyazaki, and **Y. Mino**, Temporal variation of particulate organic carbon flux at the mouth of Tokyo Bay. *J. Oceanogr.*, in press (10.1007/s10872-022-00660-7).

Svinkin, D. S., K. Hurley, A. Ridnaia, A. Lysenko, D. Frederiks, S. Golenetskii, A. Tsvetkova, M. Ulanov, A. Kokomov, T. L. Cline et al. (**K. Yamaoka**), The second catalog of Interplanetary Network localizations of Konus short-duration gamma-ray bursts. *Astrophys. J. Suppl. Ser*., **259(2)**, 34, Apr. 1, 2022 (10.3847/1538-4365/ac4607).

Tajima, H., A. Okumura, and **K. Furuta**, Studies of propagation mechanism of optical crosstalk in silicon photomultipliers. *Nucl. Instrum. Methods Phys. Res. Sect. A-Accel. Spectrom. Dect. Assoc. Equip*., in press (10.1016/j.nima.2023.168029).

Takahashi, H. A., and **M. Minami**, Assessment of the influence of benzalkonium chloride addition on radiocarbon analysis of dissolved inorganic carbon. *Limnol. Oceanogr. Meth*., **20(10)**, 605–617, Oct. 2022 (10.1002/lom3.10508).

Takeyama, M., T. Moriya, H. Saitoh, H. Miyahara, **F. Miyake**, M. Ohyama, R. Sato, R. Shitara, H. Sakurai, and F. Tokanai,

Present status of the YU-AMS system and its operation over the past 10 years. *Nucl. Instrum. Methods Phys. Res. Sect. B-Beam Interact. Mater. Atoms*., in press (10.1016/j.nimb.2023.01.021).

Tanaka, T., Y. Ebihara, M. Watanabe, S. Fujita, **N. Nishitani,** and R. Kataoka, Interpretation of the theta aurora based on the null-separator structure. *J. Geophys. Res. Space Phys*., **127(8)**, e2022JA030332, Aug. 2022 (10.1029/2022JA030332).

Tanaka, T., M. Watanabe, Y. Ebihara, S. Fujita, **N. Nishitani**, and R. Kataoka, Unified theory of the arc auroras: Formation mechanism of the arc auroras conforming general principles of convection and FAC generation. *J. Geophys. Res. Space Phys.*, **127(9)**, e2022JA030403, Sep. 2022 (10.1029/2022JA030403).

Tanaka, Y., N. Umemura, S. Abe, **A. Shinbori**, and S. UeNo, Advanced tools for guiding data-led research processes of Upper-Atmospheric phenomena. *Geosci. Data J*., **10(1)**, 130–141, Jan. 2023 (10.1002/gdj3.170).

Tarasov, P. E., L. A. Savelieva, F. Kobe, B. S. Korotkevich, T. W. Long, N. A. Kostromina, and **C. Leipe**, Lateglacial and Holocene changes in vegetation and human subsistence around Lake Zhizhitskoye, East European midlatitudes, derived from radiocarbon-dated pollen and archaeological records. *Quat. Int.*, **623**, 184–197, Jun. 20, 2022 (10.1016/j.quaint.2021.06.027).

Tarasov, P. E., S. V. Pankova, T. Long, **C. Leipe**, K. B. Kalinina, A. V. Panteleev, L. Ør. Brandt, I. L. Kyzlasov, and M. Wagner, New results of radiocarbon dating and identification of plant and animal remains from the Oglakhty cemetery provide an insight into the life of the population of southern Siberia in the early 1st millennium CE. *Quat. Int.*, **623**, 169–183, Jun 20, 2022 (10.1016/j.quaint.2021.12.00).

Terao, T., S. Kanae, **H. Fujinami**, S. Das, A. P. Dimri, S. Dutta, K. Fujita, A. Fukushima, K.-J. Ha, M. Hirose et al., AsiaPEX: Challenges and prospects in Asian precipitation research. *Bull. Amer. Meteorol. Soc*., in press (10.1175/BAMS-D-20-0220.1).

Thomas, N., A. Kero, **Y. Miyoshi**, **K. Shiokawa**, M. Hyötylä, T. Raita, Y. Kasahara, I. Shinohara, S. Matsuda, **S. Nakamura** et al. (**T. Hori**, **C.-W. Jun**), Statistical survey of Arase satellite data sets in conjunction with the Finnish riometer network. *J. Geophys. Res. Space Phys*., **127(5)**, e2022JA03027, May 2022 (10.1029/2022JA030271).

Tian, X., Y. Yu, F. Gong, L. Ma, J. Cao, S. Solomon, **P. Shreedevi**, **K. Shiokawa**, **Y. Otsuka**, **S. Oyama**, and **Y. Miyoshi**, Ionospheric modulation by EMIC wave-driven proton precipitation: Observations and simulations. *J. Geophys. Res. Space Phys.*, **128(1)**, e2022JA030983, Jan. 2023 (10.1029/2022JA030983).

Tiburzi, C., B. V. Jackson, L. Cota, G. M. Shaifullah, R. A. Fallows, **M. Tokumaru**, and P. Zucca, Validation of heliospheric modeling algorithms through pulsar observations I: Interplanetary scintillation-based tomography. *Adv. Space Res*., in press (10.1016/j.asr.2022.04.070).

Tokumaru, M., **K. Fujiki,** and **K. Iwai**, Interplanetary scintillation observations of solar-wind disturbances during Cycles 23 and 24. *Sol. Phys.*, **298(2)**, 22, Feb. 13, 2023 (10.1007/s11207-023-02116-7).

Trieu, T. T. N., I. Morino, O. Uchino, Y. Tsutsumi, T. Izumi, T. Sakai, T. Shibata, H. Ohyama, and **T. Nagahama**, Long-range transport of CO and aerosols from Siberian biomass burning over northern Japan during 18–20 May 2016. *Environ. Pollut*. in press (10.1016/j.envpol.2023.121129).

Umeda, T., Multicolor reordering for computing moments in particle-in-cell plasma simulations. *Comput. Phys. Commun*., **281**, 108499, Dec. 2022 (10.1016/j.cpc.2022.108499).

Umeda, T., A new integrator for relativistic E-cross-B motion of charged particles. *J. Comput. Phys*., **472**, 111694, Jan. 2023 (10.1016/j.jcp.2022.111694).

Uneme, S., **S. Imada**, H. Lee, E. Park, **H. Hayakawa**, T. Iju, and Y.-J. Moon, Inference of magnetic field during the Dalton minimum: Case study with recorded sunspot areas. *Publ. Astron. Soc. Jpn*, **74(4)**, 767–776, Aug. 4, 2022 (10.1093/pasj/psac032).

Urata, Y., K. Toma, S. Covino, K. Wiersema, K. Huang, J. Shimoda, A. Kuwata, S. Nagao, K. Asada, H. Nagai, et al. (**K. Yamaoka**), Simultaneous radio and optical polarimetry of GRB 191221B afterglow. *Nat. Astron*., **7**, 80–87, Jan. 2023 (10.1038/s41550-022-01832-7).

Vandenbussche, S., B. Langerock, C. Vigouroux, M. Buschmann, N. M. Deutscher, D. G. Feist, O. García, J. W. Hannigan, F. Hase, R. Kivi et al. (**T. Nagahama**), Nitrous Oxide Profiling from Infrared Radiances (NOPIR): Algorithm description, application to 10 years of IASI observations and quality assessment. *Remote Sens*., **14(8)**, 1810, Apr. 8, 2022 (10.3390/rs14081810).

Wang, C.-C., S.-H. Chen, **K. Tsuboki**, S.-Y. Huang, and C.-S. Chang, Application of time-Lagged ensemble quantitative precipitation forecasts for Typhoon Morakot (2009) in Taiwan by a cloud-resolving model. *Atmosphere*, **13(4)**, 585, Apr. 2022 (10.3390/atmos13040585).

Wang, C.-C., P.-Y. Chuang, S.-T. Chen, D.-I. Lee, and **K. Tsuboki**, Idealized simulations of Mei-yu rainfall in Taiwan under uniform southwesterly flow using a cloud-resolving model. *Nat. Hazards Earth Syst. Sci*., **22(6)**, 1795–1817, Jun. 2, 2022 (10.5194/nhess-22-1795-2022).

Wang, C.-C., T.-Y. Yeh, C.-S. Chang, M.-S. Li, **K. Tsuboki**, and C.-H. Liu, A modeling study of an extreme rainfall event along the northern coast of Taiwan on 2 June 2017. *Atmos. Chem. Phys*., **23(1)**, 501–521, Jan. 12, 2023 (10.5194/acp-23-501-2023).

Wang, C.-C., C.-Y. Lee, B. J.-D. Jou, C. P. Celebre, S. David, and **K. Tsuboki**, High-resolution time-lagged ensemble prediction for landfall intensity of Super Typhoon Haiyan (2013) using a cloud-resolving model. *Weather Clim. Extremes*, **37**, 100473, Sep. 2022 (10.1016/j.wace.2022.100473).

Wang, C.-C., S.-H. Chen, Y.-H. Chen, H.-C. Kuo, J. H. Ruppert, and **K. Tsuboki**, Cloud-resolving time-lagged rainfall ensemble forecasts for typhoons in Taiwan: Examples of Saola (2012), Soulik (2013), and Soudelor (2015). *Weather Clim. Extremes*, in press (10.1016/j.wace.2023.100555).

Wang, C.-C., S. Paul, S.-Y. Huang, Y.-W. Wang, **K. Tsuboki**, D.-I. Lee, and J.-S. Lee, Typhoon quantitative precipitation forecasts by the 2.5 km CReSS model in Taiwan: Examples and role of topography. *Atmosphere*, **13(4)**, 623, Apr. 2022 (10.3390/atmos13040623).

Wang, C.-C., C.-H. Tsai, B. J.-D. Jou, S. J. David, A. G. Pura, D.-I. Lee, **K. Tsuboki**, and J.-S. Lee, Time-lagged ensemble quantitative precipitation forecasts for three landfalling typhoons in the Philippines using the CReSS model, Part II: Verification using global precipitation measurement retrievals. *Remote Sens*., **14(20)**, 5126, Oct. 13, 2022 (10.3390/rs14205126).

Xia, Y., J. Jiao, **S. Nozawa**, X. Cheng, J. Wang, C. Shi, L. Du, Y. Li, H. Zheng, F. Li, and G. Yang, Significant enhancements of the mesospheric Na layer bottom below 75 km observed by a full-diurnal-cycle lidar at Beijing (40.41° N, 116.01° E), China. *Atmos. Chem. Phys.*, **22**, 13817–13831, Oct. 26, 2022 (10.5194/acp-22-13817-2022).

Xia, Z., L. Chen, W. Gu, R. B. Horne, **Y. Miyoshi**, Y. Kasahara, A. Kumamoto, F. Tsuchiya, **S. Nakamura**, M. Kitahara, and I. Shinohara, Latitudinal dependence of ground VLF transmitter wave power in the inner magnetosphere. *Front. Astron. Space Sci*., **10**, 1135509, Feb. 23, 2023 (10.3389/fspas.2023.1135509).

Xiao, F. L., J. Tang, S. Zhang, Q. Zhou, S. Liu, Y. He, Q. Yang, Y. Kasahara, **Y. Miyoshi**, A. Kumamoto et al. (**S. Nakamura**), Asymmetric distributions of auroral kilometric radiation in Earth's northern and southern hemispheres observed by the Arase satellite. *Geophys. Res. Lett.*, **49(13)**, e2022GL099571, Jul. 18, 2022 (10.1029/2022GL099571).

Yadav, S., **K. Shiokawa**, **Y. Otsuka**, and M. Connors, Statistical study of subauroral arc detachment at Athabasca, Canada: New insights on STEVE. *J. Geophys. Res. Space Phys*., **127(9)**, e2021JA029856, Sep. 2022 (10.1029/2021JA029856).

Yamakawa, T., K. Seki, T. Amano, **Y. Miyoshi**, N. Takahashi, A. Nakamizo, and K. Yamamoto, Excitation of two types of storm-

time Pc5 ULF waves by ring current ions based on the magnetosphere-ionosphere coupled model. *J. Geophys. Res. Space Phys*., **127(8)**, e2022JA030486, Aug. 2022 (10.1029/2022JA030486).

Yamamoto, M., F. Wang, T. Irino, K. Yamada, T. Haraguchi, H. Nakamura, K. Gotanda, H. Yonenobu, **C. Leipe**, X.-Y. Chen, and P. E. Tarasov, Environmental evolution and fire history of Rebun Island (Northern Japan) during the past 17,000 years based on biomarkers and pyrogenic compound records from Lake Kushu. *Quat. Int.*, **623**, 8–18, Jun. 20, 2022 (10.1016/j.quaint.2021.09.015).

Yamasaki, D., S. Inoue, **Y. Bamba**, J. W. Lee, and H. M. Wang, A data-constrained magnetohydrodynamic simulation of the X1.0 solar flare of 2021 October 28. *Astrophys. J.*, **940(2)**, 119, Dec. 1, 2022 (10.3847/1538-4357/ac9df4).

Yamauchi, M., J. D. Keyser, G. Parks, **S.-i. Oyama**, P. Wurz, T. Abe, A. Beth, I. A. Daglis, I. Dandouras, M. Dunlop et al., Plasma-neutral gas interactions in various space environments: Assessment beyond simplified approximations as a Voyage 2050 theme. *Exp. Astron*., **54**, 521–559, Dec. 2022 (10.1007/s10686-022-09846-9).

Yang, H., W. Zang, A. Gould, J. C. Yee, K.-H. Hwang, G. Christie, T. Sumi, J. Zhang, S. Mao, M. D. Albrow et al. (**F. Abe**, **Y. Itow, Y. Matsubara**, **Y. Muraki**), KMT-2021-BLG-0171Lb and KMT-2021-BLG-1689Lb: two microlensing planets in the KMTNet high-cadence fields with followup observations. *Mon. Not. Roy. Astron. Soc*., **516(2)**, 1894–1909, Oct. 2022 (10.1093/mnras/stac2023).

Yasuda, H., **N. Kurita**, and K. Yajima, Verification of estimated cosmic neutron intensities using a portable neutron monitoring system in Antarctica. *Appl. Sci.-Basel*, **13(5)**, 3297, Mar. 2023 (10.3390/app13053297).

Yasunari, T. J., S. Wakabayashi, **Y. Matsumi**, and S. Matoba, Developing an insulation box with automatic temperature control for PM2.5 measurements in cold regions. *J. Environ. Manage*., **311**, 114784, Jun. 1, 2022 (10.1016/j.jenvman.2022.114784).

Yoshikawa, C., N. O. Ogawa, Y. Chikaraishi, A. Makabe, Y. Matsui, Y. Sasai, M. Wakita, M. C. Honda, **Y. Mino**, M. N. Aita et al., Nitrogen isotopes of sinking particles reveal the seasonal transition of the nitrogen source for phytoplankton. *Geophys. Res. Lett*., **49(17)**, e2022GL098670, Sep. 16, 2022 (10.1029/2022GL098670).

Yu, Y., K. Hosokawa, B. Ni, V. K. Jordanova, **Y. Miyoshi**, J. Cao, X. Tian, and L. Ma, On the importance of using event-specific wave diffusion rates in modeling diffuse electron precipitation. *J. Geophys. Res. Space Phys*., **127(4)**, E2021ja029918, Apr. 2022 (10.1029/2021JA029918).

Zaidan, M. A., N. H. Motlagh, P. L. Fung, A. S. Khalaf, **Y. Matsumi**, A. Ding, S. Tarkoma, S. Member, T. Petäjä, M. Kulmala, and T. Husse, Intelligent air pollution sensors calibration for extreme events and drifts monitoring. *IEEE Trans. Ind. Inform.*, **19(2)**, 1366–1379, Feb. 2023 (10.1109/TII.2022.3151782).

Zang, W., Y. Shvartzvald, A. Udalski, J. C. Yee, C.-U. Lee, T. Sumi, Z. Zhang, H. Yang, S. Mao, S. C. Novati et al. (**F. Abe**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), OGLE-2018-BLG-0799Lb: q~2.7×10^{-3} planet with Spitzer parallax. *Mon. Not. Roy. Astron. Soc.*, **514(4)**, 5952–5968, Aug. 2022 (10.1093/mnras/stac1631).

Zhang, J. J., J. Xu, W. Wang, G. Wang, J. M. Ruohoniemi, **A. Shinbori**, **N. Nishitani**, C. Wang, X. Deng, A. Lan, and J. Yan, Oscillations of the ionosphere caused by the 2022 Tonga volcanic eruption observed with SuperDARN radars. *Geophys. Res. Lett*., **49(20)**, e2022GL100555, Oct. 28, 2022 (10.1029/2022GL100555).

Zhao, K., L. M. Kistler, E. J. Lund, N. Nowrouzi, **N. Kitamura**, and R. J. Strangeway, Nightside auroral H^+ and O^+ outflows versus energy inputs during a geomagnetic storm. *J. Geophys. Res. Space Phys*., **127(11)**, e2022JA030923, Nov. 2022 (10.1029/2022JA030923).

Zhou, R. C., **Y. Deng**, B. Kunwar, Q. Chen, J. Chen, L. Ren, K. Kawamura, P. Fu, and **M. Mochida**, Relationships of the hygroscopicity of HULIS with their degrees of oxygenation and sources in the urban atmosphere. *J. Geophys. Res. Atmos*., **127(24)**, e2022JD037163, Dec. 27, 2022 (10.1029/2022JD037163).

Books (April 2022–March 2023)

Ebihara, Y., **S. Nakamura,** T. Goto, S. Watari, and T. Kikuchi, Geomagnetic Variability and GIC, 139–175, in *Solar-Terrestrial Environmental Prediction*, edited by **K. Kusano**, 462pp, Springer, Singapore, Feb. 1, 2023 (10.1007/978-981-19-7765-7_6).

Hayakawa, H., Y. Notsu, and Y. Ebihara, Explorations of Extreme Space Weather Events from Stellar Observations and Archival Investigations, 327–376, in *Solar-Terrestrial Environmental Prediction*, edited by **K. Kusano**, 462pp, Springer, Singapore, Feb. 1, 2023 (10.1007/978-981-19-7765-7_11).

Ichimoto, K., T. Shimizu, **K. Iwai**, and H. Yurimoto, Structure of Solar Atmosphere and Magnetic Phenomena. 225–250, in *Solar-Terrestrial Environmental Prediction*, edited by **K. Kusano**, 462pp, Springer, Singapore, Feb. 1, 2023 (10.1007/978-981-19-7765-7_8).

Kondo, M., R. Birdsey, T. A.M. Pugh, R. Lauerwald, P. A. Raymond, S. Niu, and K. Naudts, Chapter 7 - State of science in carbon budget assessments for temperate forests and grasslands. 237–270, in *Balancing Greenhouse Gas Budgets Accounting for Natural and Anthropogenic Flows of CO_2 and Other Trace Gases*, edited by B. Poulter, J. G. Canadell, D. J. Hayes, and R. L. Thompson, 530pp, Elsevier, Amsterdam (10.1016/B978-0-12-814952-2.00011-3).

Kusano, K., Editor, *Solar-Terrestrial Environmental Prediction*, 462pp, Springer, Singapore, Feb. 1, 2023 (10.1007/978-981-19-7765-7).

Kusano, K., S. Toriumi, D. Shiota, and T. Minoshima, Prediction of Solar Storms, 289–325, in *Solar-Terrestrial Environmental Prediction*, edited by **K. Kusano**, 462pp, Springer, Singapore, Feb. 1, 2023 (10.1007/978-981-19-7765-7_10).

Masunaga, H., *Satellite Measurements of Clouds and Precipitation Theoretical Basis*, 297 pp, Springer Singapore, Apr. 27, 2022 (10.1007/978-981-19-2243-5).

Miyoshi, Y., Y. Katoh, S. Saito, T. Mitani, and T. Takashima, Space Radiation. 115–137, in *Solar-Terrestrial Environmental Prediction*, edited by **K. Kusano**, 462pp, Springer, Singapore, Feb. 1, 2023 (10.1007/978-981-19-7765-7_5).

Otsuka, Y., H. Jin, H. Shinagawa, K. Hosokawa, and T. Tsuda, Ionospheric Variability, 177–222, in *Solar-Terrestrial Environmental Prediction*, edited by **K. Kusano**, 462pp, Springer, Singapore, Feb. 1, 2023 (10.1007/978-981-19-7765-7_5).

Shiokawa, K., Introduction of Space Weather Research on Magnetosphere and Ionosphere of the Earth, 95–113, in *Solar-Terrestrial Environmental Prediction*, edited by **K. Kusano**, 462pp, Springer, Singapore, Feb. 1, 2023 (10.1007/978-981-19-7765-7_11).

5 more books were published in Japanese.

Publication of Proceedings (April 2022–March 2023)

Title	Date of Publication
The 27th Symposium on Atmospheric Chemistry, Book of Abstracts	Nov. 2022
iLEAPS-Japan 2022 Workshop: Book of Abstracts	Dec. 2022
The Nagoya University Bulletin of Chronological Research Vol. 7	Mar. 24, 2023

Conference Presentations (April 2022–March 2023)

■ International Conferences

*Session Conveners

Title	Venue	Date	Organizers	Number of Presentations			
				Staff and PDs	Students	Total	Invited
EGU Geosciences Information for Teachers virtual workshop (vGIFT) 2022	Online	Apr. 4–8, 2022	0	1	0	1	1
From Forests to Heritage	Hybrid Conference/ Amsterdam, Netherlands	Apr. 19–21, 2022	0	1	0	1	1
24th AVAPS Users Group Meeting	Online	Apr. 20–21, 2022	0	1	0	1	0
8th MMS Community workshop	Hybrid Conference/ Daytona Beach, FL, USA	May 9–13, 2022	0	1	0	1	0
Physics in LHC and Beyond	Hybrid Conference/ Matsue, Japan	May 12–18, 2022	0	1	0	1	1
International Symposium on Remote Sensing 2022 (ISRS 2022)	Online	May 16–18, 2022	0	1	0	1	0
10th Edition of the Large Hadron Collider Physics Conference (LHCP 2022)	Online	May 16–22, 2022	0	1	0	1	0
Japan Geoscience Union Meeting 2022	Hybrid Conference/ Chiba, Japan	May 22–27, 2022	7*	45	20	65	1
XeSAT 2022 -International Workshop on Applications of Noble Gas Xenon to Science and Technology	Coimbra, Portugal	May 23–26, 2022	0	2	0	2	1
EGU General Assembly 2022	Hybrid Conference/ Vienna, Austria	May 23–27, 2022	0	2	1	3	0
21st International Symposium on Very High Energy Cosmic Ray Interactions (ISVHECRI 2022)	Online	May 23–28, 2022	1	1	1	2	1
URSI AT-AP-RASC 2022	Hybrid Conference/ Gran Canaria, Spain	May 29–Jun. 3, 2022	1*	3	0	3	1
SuperDARN Workshop 2022	Online	May 30–Jun. 3, 2022	0	3	2	5	0
ISSI meeting (Team of F. Miyake and I. Usoskin: Solar Extreme Events: Setting Up a Paradigm)	Hybrid Conference/ Bern, Switzerland	Jun. 7–10, 2022	1	1	0	1	1
12th Asian Aerosol Conference (AAC2022)	Hybrid Conference/ Taipei, Taiwan	Jun. 12–16, 2022	0	1	0	1	0
Unraveling the History of the Universe and Matter Evolution with Underground Physics (UGAP2022)	Hybrid Conference/ Chiba, Japan	Jun. 13–15, 2022	0	1	1	2	1
8th International HEPPA-SOLARIS Meeting	Bergen, Norway	Jun. 13–15, 2022	0	1	0	1	1
AmeriDendro2022	Hybrid Conference/ Montréal, Canada	Jun. 27–30, 2022	0	1	0	1	1
9th Conference on New Developments in Photodetection	Troyes, France	Jul. 4–8, 2022	0	1	0	1	0
International Conference on High Energy Physics (ICHEP 2022)	Hybrid Conference/ Bologna, Italy	Jul. 6–13, 2022	0	1	0	1	0
EU SafeSpace 2022	Athens, Greece	Jul. 14–15, 2022	0	1	0	1	1
QCD Workshop	Hybrid Conference/ Wako, Japan	Jul. 15, 2022	0	1	0	1	0

Title	Venue	Date	Orga-nizers	Number of Presentations			
				Staff and PDs	Students	Total	Invited
COSPAR 2022, 44th Scientific Assembly	Hybrid Conference/ Athens, Greece	Jul. 16–24, 2022	0	7	0	7	3
3rd Pan-GASS Meeting, Understanding and Modeling Atmospheric Processes (UMAP 2022)	Monterey, CA, USA	Jul. 25–29, 2022	0	1	0	1	0
AOGS2022	Online	Aug. 1–5, 2022	4*	3	2	5	2
IBS-KMI joint Workshop	Online	Aug. 3–5, 2022	1	1	0	1	1
Advances in Solar MHD Numerical Simulations in the Era of High-Resolution Observations	Hybrid Conference/ Eastbourne, UK	Aug. 7–10, 2022	0	1	0	1	1
Triennial Earth-Sun Summit (TESS) 2022	Hybrid Conference/ Bellevue, WA, USA	Aug. 8–11, 2022	0	1	0	1	1
20th International EISCAT Symposium	Hybrid Conference/ Uppsala, Sweden	Aug. 15–19, 2022	0	2	1	3	0
11th European Conference on Radar in Meteorology and Hydrology (ERAD2022)	Hybrid Conference/ Locarno, Switzerland	Aug. 29–Sep. 2, 2022	0	2	0	2	0
2022 URSI-Japan Radio Science Meeting	Tokyo, Japan	Sep. 1–2, 2022	0	2	3	5	0
Science with LLAMA 2022	Hybrid Conference/ Salta, Argentina	Sep. 5–8, 2022	0	1	0	1	0
Plasma Explosions in the Universe 2022	Hybrid Conference/ Kyoto, Japan	Sep. 6–8, 2022	1	2	2	4	1
24th Radiocarbon – 10th ^{14}C & Archaeology international conferences	Zurich, Switzerland	Sep. 11–16, 2022	1	1	0	1	0
Asian Association of World Histories 2022	Hybrid Conference/ New Delhi, India	Sep. 12–13, 2022	0	1	0	1	0
16th International Symposium on Equatorial Aeronomy (ISEA-16)	Hybrid Conference/ Uji, Japan	Sep. 12–16, 2022	1*	4	3	7	0
The 14th International School for Space Simulations	Online	Sep. 12–17, 2022	0	0	1	1	0
The 2nd DMNet International Symposium “Direct and indirect detection of dark matter”	Heidelberg, Germany	Sep. 13–15, 2022	3	1	0	1	0
DM3 workshop	Hybrid Conference/ Kobe, Japan	Sep. 15–17, 2022	0	1	0	1	1
Space Climate 8 Symposium	Krakow, Poland	Sep. 19–22, 2022	0	3	0	3	3
International Colloquium on Equatorial and Low-Latitude Ionosphere	Hybrid Conference/ Abuja, Nigeria	Sep. 19–23, 2022	1	1	0	1	1
LIDINE 2022	Warsaw, Poland	Sep. 21–23, 2022	0	1	1	2	0
Workshop on Land-Atmosphere Coupling	Takamatsu, Japan	Sep. 26, 2022	0	1	0	1	0
Workshop on “Challenges in the Understanding of the Global Water Energy Cycle and its Changes in Response to Greenhouse Gases Emissions”	Bern, Switzerland	Sep. 26–30, 2022	0	1	0	1	0
2022 International Heliopspheric Data Environment Alianace (HDEA) meeting	Online	Oct. 3–7, 2022	2	1	0	1	1
6th International Symposium on Ultra High Energy Cosmic-Rays (UHECR 2022)	L’Aquila, Italy	Oct. 3–7, 2022	0	1	1	2	0

Title	Venue	Date	Orga-nizers	Number of Presentations			
				Staff and PDs	Students	Total	Invited
MMS Fall 2022 Science Working Team Meeting	Online	Oct. 3–7, 2022	0	1	0	1	0
Internationa Atmospheric Rivers Conference 2022	Hybrid Conference/ Santiago, Chile	Oct. 10–14, 2022	0	1	0	1	0
Spase Physics meeting	Oulu, Finland	Oct. 20, 2022	0	1	0	1	0
The Applied Superconductivity Conference 2022	Honolulu, HI, USA	Oct. 23–28, 2022	0	0	1	1	0
European Space Weather Week 2022	Zagreb, Croatia	Oct. 24–28, 2022	0	1	0	1	1
1st VERSIM School	Hybrid Conference/ Sodankylä, Finland	Nov. 5–6, 2022	1	1	0	1	1
10th VERSIM Workshop	Hybrid Conference/ Sodankylä, Finland	Nov. 7–11, 2022	1	2	0	2	1
The Solar Polarization Workshop 10	Hybrid Conference/ Kyoto, Japan	Nov. 7–11, 2022	1	0	0	0	0
The 31st International Toki Conference on Plasma and Fusion Research	Online	Nov. 8–11, 2022	0	1	0	1	0
The 5th ISEE Symposium: Toward the Future of Space–Earth Environmental Research	Hybrid Conference/ Nagoya, Japan	Nov. 15–17, 2022	15	39	20	59	0
3rd Workshop for Atmospheric Neutrino Production in the MeV to PeV range (WANP2022)	Hybrid Conference/ Nagoya, Japan	Nov. 17–18, 2022	2	1	0	1	1
The 9th International Seminar on Aerospace Science and Technology (ISAST 20222)	Online	Nov. 22–23, 2022	0	1	0	1	1
The 35th International Symposium on Superconductivity (ISS2022)	Hybrid Conference/ Nagoya, Japan	Nov. 29–Dec.1, 2022	0	1	0	1	1
AGU Fall Meeting 2022	Hybrid Conference/ Chicago, IL, USA	Dec. 12–26, 2022	0	19	11	30	4
10th Asian - 19th Japan/Korean Workshop on Ocean Color (AWOC/JKWOC)	Online	Dec. 13–15, 2022	0	1	3	4	0
RIKEN-NICT-East Asia Receiver Joint Workshop	Hybrid Conference/ Wako, Japan	Dec. 14–15, 2022	1	1	0	1	1
The 4th KMI School - Statistical Data Analysis and Anomalies in Particle Physics and Astrophysics	Hybrid Conference/ Nagoya, Japan	Dec. 14–17, 2022	3	0	0	0	0
iLEAPS - OzFlux Joint 2023 Conference	Hybrid Conference/ Auckland, New Zealand	Jan. 31–Feb. 3, 2023	1*	0	0	0	0
The 5th KMI International Symposium (KMI2023)	Nagoya, Japan	Feb. 20–21, 2023	3	2	0	2	2
The Seventh International Symposium on Arctic Research (ISAR-7)	Hybrid Conference/ Tachikawa, Japan	Mar. 6–10, 2023	1	16	0	16	1
2nd International Workshop on Forward Physics and Forward Calorimeter Upgrade in ALICE)	Tsukuba, Japan	Mar. 13–15, 2023	0	1	0	1	1
Joint Workshop of “Physics and application of whistler waves” and “Future perspective of study on nonlinear wave-particle interaction”	Hybrid Conference/ Uji, Japan	Mar. 16–17, 2023	0	1	0	1	0
Russian Conference with International Participation, Commemorating 150th Birthday of Mikhail Sumgin; Coupled natural and technical systems in permafrost regions under changing climate	Hybrid Conference/ Yakutsk, Russia	Mar. 22–23, 2023	0	1	0	1	0

Title	Venue	Date	Orga-nizers	Number of Presentations			
				Staff and PDs	Students	Total	Invited
ICCP-GSRA Workshop 2023, jointly with 2nd EarthCARE Modeling Workshop for improving cloud and radiation of climate models	Izu, Japan	Mar. 27–29, 2023	0	1	0	1	0
Symposium on the Future of Heliospheric Science: From Geotail and Beyond	Hybrid Conference/ Tokyo, Japan	Mar. 28–31, 2023	2	6	0	6	3
Total			41 14*	211	74	285	45

■ Domestic Conferences

* Session Conveners

Number of Conferences	Organizers	Number of Presentations			
		Staff and PDs	Students	Total	Invited
86	42 4*	171	88	259	24

■ Lectures for Researchers

Date	Title	Number of Participants
May 11, 2022 Jun. 16, 2022 Jul. 5, 2022 Sep. 23, 2022	SCOSTEP/PRESTO Online Seminar (12th–15th)	48 32 30 61
Apr. 28, 2022 Jul. 12, 2022 Sep. 8, 2022 Oct. 25, 2022	SCOSTEP Online Capacity Building Lecture (13th–16th)	68 61 99 65
May 12, 2022 Jul. 7, 2022 Dec. 20, 2022 Feb. 9, 2023 Feb. 20, 2023 Feb. 27, 2023 Mar. 30, 2023	ISEE/CICR colloquium (63rd–69th)	35 16 22 38 16 11 11

Awards

■ Staff and PhD

Award Winners	Date	Awards	Title
Kanya Kusano	Apr. 20, 2022	Awards for Science and Technology, The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology	Study of accurate prediction and onset mechanism of giant solar flares
Kazuhisa Tsuboki			Research for typhoon intensity by aircraft observation and numerical model.
Fusa Miyake	Jun. 30, 2022	Tree-Ring Society José A. Boninsegna Frontiers in Dendrochronology Award	Contributions to applied researches on radiocarbon of tree-rings such as a radiocarbon dating and extension of tree-ring chronology, by discovering radiocarbon spikes
Joji Ishizaka	Sep. 5, 2022	Uda Prize, Oceanographic Society of Japan Research Awards	Promotion of ocean research using ocean color satellite information
Yuto Tashiro	Oct. 7, 2022	Best Presentation Award, 2022 Annual Conference, Japan Society of Hydrology and Water Resources/Japanese Association of Hydrological Sciences	Increase in Dissolved Iron Concentration in the Amur River from 1995 to 1997: Initial Analysis using Atmospheric Reanalysis Data
Haruhisa Iijima	Oct. 28, 2022	HPCI Excellent Achievement Award	Three-dimensional radiation magnetohydrodynamic simulation of slow solar wind
Satoko Nakamura	Nov. 6, 2022	Obayashi Early Career Scientist Award	Studies of electromagnetic ion cyclotron waves in the Earth's magnetosphere by using satellite observations
Satoko Nakamura	Nov. 25, 2022	NF Foundation R&D Encouragement Award	Risk prediction model for Japan's power grid in unexperienced space weather disasters
Satoko Nakamura	Nov. 30, 2022	11th Nagoya University Ishida Prize	A preliminary risk assessment of geomagnetically induced currents on Japanese power grids
Hirohiko Masunaga	Jan. 11, 2023	2022 ASLI (Atmospheric Science Librarians International) Choice (Science and Technology) Award	The book “Satellite Measurements of Clouds and Precipitation: Theoretical Basis” (Springer)
Satoko Nakamura	Jan. 31, 2023	Excellence Award in the Basic Research Division of the Aichi Prefecture "Wakashachi Encouragement Award"	The risk assessment against the severe space weather disaster: the observation network in the Tokai region
Atsuki Shinbori (co-author: Y. Otsuka, T. Sori, N. Nishitani)	Feb. 24, 2023	Highlighted Papers 2022 in the journal Earth Planets Space (EPS)	Shinbori, A., Y. Otsuka, T. Sori, M. Nishioka, S. Perwitasari, T. Tsuda and N. Nishitan, Electromagnetic conjugacy of ionospheric disturbances after the 2022 Hunga Tonga-Hunga Ha’apai volcanic eruption as seen in GNSS-TEC and SuperDARN Hokkaido pair of radars observations
Haruhisa Iijima	Mar. 8, 2023	Next-Generation Researcher Award, Research Meeting of Program for Promoting Research on the Supercomputer Fugaku.	Supersonic plasma wind driven by the magnetohydrodynamic turbulence in the Sun

■ Students

Award Winners	Date	Awards	Title
Keitaro Matsumoto	Jun. 4, 2022	JpGU 2022 Outstanding Student Presentation Award	Study of electron acceleration/propagation processes in a solar flare using Nobeyama Radioheliograph
Sora Nakata			Analysis of the plasma upflows and the global structure of the magnetic field lines using Hinode/EIS observation and PFSS extrapolation
Naoki Aoyama	Jun. 15, 2022	Unraveling the History of the Universe and Matter Evolution with Underground Physics（UGAP2022）Best Poster Award	Development of coated electrodes with low quantum efficiency for the DARWIN experiment
Taiki Maeda	Aug. 5, 2022	Asia Oceania Geosciences Society (AOGS) 2022 Best Student Poster Award	Low-cost Magnetometers Using Magneto-impedance (MI) Sensors