9. Publications and Presentations

Papers (in refereed Journals, April 2021–March 2022)

Abadi, P., **Y. Otsuka**, H. X. Liu, K. Hozumi, D. R. Martinigrum, P. Jamjareegulgarn, L. T. Thanh, and R. Otadoy, Roles of thermospheric neutral wind and equatorial electrojet in pre-reversal enhancement, deduced from observations in Southeast Asia. *Earth and Planetary Physics*, **5(5)**, 387–396, Sep. 2021 (10.26464/epp2021049).

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*., in press (10.3390/rs14081896).

Abe, K., C. Bronner, Y. Hayato, M. Ikeda, S. Imaizumi, J. Kameda, Y. Kanemura, Y. Kataoka, S. Miki, M. Miura et al. (**Y. Itow**, **H. Menjo**, **T. Niwa**, **K. Sato**, **M. Tsukada**), Search for neutrinos in coincidence with gravitational wave events from the LIGO-Virgo O3a Observing Run with the Super-Kamiokande detector. *Astrophys. J*., **918(2)**, 78, Sep. 2021 (10.3847/1538-4357/ac0d5a).

Abe, K., K. Hiraide, K. Ichimura, Y. Kishimoto, K. Kobayashi, M. Kobayashi, S. Moriyama, M. Nakahata, H. Ogawa, K. Sato et al. (**Y. Itow**, **K. Kanzawa**, **K. Masuda**), Search for event bursts in XMASS-I associated with gravitational-wave events. *Astropart. Phys*., **129**, 102568, May 2021 (10.1016/j.astropartphys.2021.102568).

Abe, K., P. Adrich, H. Aihara, R. Akutsu, I. Alekseev, A. Ali, F. Ameli, I. Anghel, L. H. V. Anthony, M. Antonova et al. (**Y. Itow**), Supernova model discrimination with Hyper-Kamiokande. *Astrophys. J*., **916(1)**, 15, Jul. 2021 (10.3847/1538-4357/abf7c4).

Abe, K., C. Bronner, Y. Hayato, K. Hiraide, M. Ikeda, S. Imaizumi, J. Kameda, Y. Kanemura, Y. Kataoka, S. Miki et al. (**Y. Itow**, **H. Menjo**, **T. Niwa**, **K. Sato, M. Tsukada**), Diffuse supernova neutrino background search at Super-Kamiokande. *Phys. Rev. D*, **104(12)**, 122002, Dec. 10, 2021 (10.1103/PhysRevD.104.122002).

Abe, K,. C. Bronner, Y. Hayato, K. Hiraide, M. Ikeda, S. Imaizumi, J. Kameda, Y. Kanemura, Y. Kataoka, S. Miki et al. (**Y. Itow**, **H. Menjo**, **T. Niwa**, **K. Sato**, **M. Tsukada**), First gadolinium loading to Super-Kamiokande. *Nucl. Instrum. Methods Phys. Res. Sect. A-Accel. Spectrom. Dect. Assoc. Equip*., **1027**, 166248, Mar. 2022 (10.1016/j.nima.2021.166248).

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*., in press (10.1002/joc.7526).

Adams, C. B., G. Ambrosi, M. Ambrosio, C. Aramo, T. Arlen, W. Benbow, B. Bertucci, E. Bissaldi, J. Biteau, M. Bitossi et al. (**A. Okumura**, **H. Tajima**), Design and performance of the prototype Schwarzschild-Couder telescope camera. *J. Astron. Telesc. Instrum. Syst.*, **8(1)**, 014007, Feb. 15, 2022 (10.1117/1.JATIS.8.1.014007).

Adams, C. B., G. Ambrosi, M. Ambrosio, C. Aramo, P. I. Batista, W. Benbow, B. Bertucci, E. Bissaldi, M. Bitossi, A. Boiano et al. (**A. Okumura**, **H. Tajima**), Technical and scientific performance of the prototype Schwarzschild-Couder telescope for CTA. *Proc. SPIE*, **11820**, 118200E, Aug. 24, 2021 (10.1117/12.2594580).

Adithya, H. N., **R. Kariyappa**, **S. Imada**, **K. Kusano**, J. Zender, L. Damé, G. Gabriel, E. DeLuca, and M. Weber, Solar soft X-ray irradiance variability, I: Segmentation of Hinode/XRT full-disk images and comparison with GOES (1 – 8 Å) X-ray flux. *Sol. Phys.*, **296(4)**, 71, Apr. 71, 2021 (10.1007/s11207-021-01785-6).

Adriani, O., E. Berti, L. Bonechi, R. D'Alessandro, Y. Goto, B. Hong, **Y. Itow**, K. Kasahara, M. H. Kim, **H. Menjo** et al. (**K. Ohashi**, **K. Sato**), Performance of RHICf detector during operation in 2017, *J. Instrum*., **16(10)**, P10027, Oct. 22, 2021 (10.1088/1748-0221/16/10/P10027) .

Aiki, H., **Y. Fukutomi**, Y. Kanno, T. Ogata, T. Toyoda, and H. Nakano, The energy flux of three-dimensional waves in the

atmosphere: Exact expression for a basic model diagnosis with no equatorial gap. *J. Atmos. Sci*., **78(11)**, 3745–3758, Nov. 1, 2021 (10.1175/JAS-D-20-0177.1).

Ajello, M., W. B. Atwood, M. Axelsson, R. Bagagli, M. Bagni, L. Baldini, D. Bastieri, F. Bellardi, R. Bellazzini, E. Bissaldi et al. (**H. Tajima**), Fermi Large Area Telescope performance after 10 years of operation, *Astrophys. J. Suppl. Ser*., **256(1)**, 12, Sep. 2021 (10.3847/1538-4365/ac0ceb).

Ajello, M., W. B. Atwood, M. Axelsson, L. Baldini, G. Barbiellini, M. G. Baring, D. Bastieri, R. Bellazzini, A. Berretta, E. Bissaldi et al. (**H. Tajima**), High-energy emission from a magnetar giant flare in the Sculptor galaxy, *Nat. Astron*., **5(4)**, 385–391, Apr. 2021 (10.1038/s41550-020-01287-8).

Akata, N., H. Kakiuchi, M. Tanaka, Y. Ishikawa, **N. Kurita**, M. Furukawa, M. Hegedűs, T. Kovács, M. Gusyev, and T. Sanada, Isotope and chemical composition of monthly precipitation collected at Sapporo, northern part of Japan during 2015–2019. *Fusion Eng. Des*., **168**, 112434, Jul. 2021 (10.1016/j.fusengdes.2021.112434).

Akter, N., and **K. Tsuboki**, Recurvature and movement processes of tropical cyclones over the Bay of Bengal, *Q. J. R. Meteorol. Soc.*, **147(740)**, 3681–3702, Oct. 2021 (10.1002/qj.4148).

Aprile, E., J. Aalbers, F. Agostini, M. Alfonsi, L. Althueser, F. D. Amaro, V. C. Antochi, E. Angelino, J. R. Angevaare, F. Arneodo et al. (**Y. Itow**, **S. Kazama**, **M. Yamashita**), ^{222}Rn emanation measurements for the XENON1T experiment. *Eur. Phys. J. C*, **81(4)**, 33, Apr. 20, 2021 (10.1140/epjc/s10052-020-08777-z).

Aprile, E., J. Aalbers, F. Agostini, M. Alfonsi, L. Althueser, F. D. Amaro, S. Andaloro, E. Angelino, J. R. Angevaare, V. C. Antochi et al. (**Y. Itow**, **S. Kazama**, **M. Yamashita**), Search for inelastic scattering of WIMP dark matter in XENON1T.*Phys. Rev. D*, **103(6)**, 063028, Mar. 19, 2022 (10.1103/PhysRevD.103.063028).

Artemyev, A. V., A. G. Demekhov, X.-J. Zhang, V. Angelopoulos, D. Mourenas, Y. V. Fedorenko, J. Maninnen, E. Tsai, C. Wilkins, S. Kasahara, **Y. Miyoshi** et al. (**T. Hori**, **S. Nakamura**, **M. Kitahara**), Role of ducting in relativistic electron loss by whistler-mode wave scattering. *J. Geophys. Res. Space Phys*., **126(11)**, e2021JA029851, Nov. 2021 (10.1029/2021JA029851).

Artemyev, A., I. Zimovets, I. Sharykin, Y. Nishimura, C. Downs, J. Weygand, R. Fiori, X.-J. Zhang, A. Runov, M. Velli et al. (**Y. Miyoshi**, **T. Hori**), Comparative study of electric currents and energetic particle fluxes in a solar flare and Earth magnetospheric substorm. *Astrophys. J.*, **923(2)**, 151, Dec. 17, 2021 (10.3847/1538-4357/ac2dfc).

Asamura, K., **M. Shoji**, **Y. Miyoshi**, Y. Kasahara, Y. Kasaba, A. Kumamoto, F. Tsuchiya, S. Matsuda, A. Matsuoka, M. Teramoto et al., Cross-energy couplings from magnetosonic waves to electromagnetic ion cyclotron waves through cold ion heating inside the plasmasphere. *Phys. Rev. Lett.*, **127(24)**, 245101, Dec. 10, 2021 (10.1103/PhysRevLett.127.245101).

Asmi, E., J. Backman, H. Servomaa, A. Virkkula, M. I. Gini, K. Eleftheriadis, T. Müller, **S. Ohata**, Y. Kondo, and A. Hyvärinen, Absorption instruments inter-comparison campaign at the Arctic Pallas station. *Atmos. Meas. Tech*., **14(8)**, 5397–5413, Aug. 6, 2021 (10.5194/amt-14-5397-2021).

Azizi, H., N. Daneshvar, A. Mohammadi, Y. Asahara, S. A. Wattam, M. Tsuboi, and **M. Minami**, Early Miocene post-collision andesite in the Takab area, northwest Iran, *J. Petrol.*, **62(7)**, egab022, Jul. 2021 (10.1093/petrology/egab022).

Baldini, L., J. Ballet, D. Bastieri, J. Becerra Gonzalez, R. Bellazzini, A. Berretta, E. Bissaldi, R. D. Blandford, E. D. Bloom, R. Bonino et al. (**H. Tajima**), Catalog of long-term transient sources in the first 10 years of Fermi-LAT data, *Astrophys. J. Suppl. Ser*., **256(1)**, 13, Sep. 2021 (10.3847/1538-4365/ac072a).

Buranaprathepratt, A., A. Morimoto, P. Phromkot, **Y. Mino**, V. Gunbua, and P. Jintasaeranee, Eutrophication and hypoxia in the upper Gulf of Thailand, *J. Oceanogr*., **77(6)**, 831–841, Dec. 2021 (10.1007/s10872-021-00609-2).

Carrasco, V. M. S., M. C. Gallego, J. V. Álvarez, J. M. Vaquero, and **H. Hayakawa**, Analyses of early sunspot records by Jean

Tarde (1615–1617) and Jan Smogulecki (1621–1625). *Sol. Phys*., **296(11)**, 170, Nov. 27, 2021 (10.1007/s11207-021-01905-2).

Carrasco, V. M. S., **H. Hayakawa**, C. Kuroyanagi, M. C. Gallego, and J. M. Vaaquero, Strong evidence of low levels of solar activity during the Maunder Minimum. *Mon. Not. Roy. Astron. Soc*., **504(4)**, 5199–5204, Jul. 2021 (10.1093/mnras/stab1155).

Chakraborty, S., L. Qian, J. M. Ruohoniemi, J. B. H. Baker, J. M. Mclnerney, and **N. Nishitani**, The role of flare-driven ionospheric electron density changes on the Doppler flash observed by SuperDARN HF radars. *Geophys. Res. Space Phys.*, **126(8)**, e2021JA029300, Aug. 2021 (10.1029/2021JA029300).

Chashei, I. V., V. R. Lukmanov, S. A. Tyulbashev, and **M. Tokumaru**, Comparison of solar wind speed estimates from nearly simultaneous IPS observations at 327 and 111 MHz. *Sol. Phys*., **296(4),** 63, Apr. 9, 2021 (10.1007/s11207-021-01804-6).

Cheng, P.-H., C. Lin, **Y. Otsuka**, H. Liu, P. K. Rajesh, C.-H. Chen, J.-T. Lin, and M. T. Chang, Statistical study of medium-scale traveling ionospheric disturbances in low-latitude ionosphere using an automatic algorithm. *Earth Planets Space*, **73(1)**, 105, May 13, 2021 (10.1186/s40623-021-01432-1).

Chiba, S., T. Imamura, **M. Tokumaru**, D. Shiota, T. Matsumoto, H. Ando, H. Takeuchi, Y. Murata, A. Yamazaki, B. Häusler, and M. Pätzold, Observation of the solar corona using radio scintillation with the Akatsuki spacecraft: Difference between fast and slow wind. *Sol. Phys.*, **297(3)**, 34, Mar. 9, 2022 (10.1007/s11207-022-01968-9).

Cho, D.-L., T.-H. Lee, Y. Takahashi, **T. Kato**, K. Yi, S. Lee, and A. C.-s. Cheong, Zircon U-Pb geochronology and Hf isotope geochemistry of magmatic and metamorphic rocks from the Hida Belt, southwest Japan. *Geosci. Front*., **12(4)**, 101145, Jul. 2021 (10.1016/j.gsf.2021.101145).

Daglis, I. A., L. Chang, S. Dasso, N. Gopalswamy, O. Khabarova, E. Kilpua, R. Lopez, D. Marsh, K. Matthes, D. Nandi et al. (**K. Shiokawa)**, Predictability of variable solar-terrestrial coupling. *Ann. Geophysicae*, **39(6)**, 1013–1035, Dec. 10, 2021 (10.5194/angeo-39-1013-2021).

Damiani, A., H. Irie, K. Yamaguchi, H. M. S. Hoque, T. Nakayama, **Y. Matsumi**, and Y. Kondo, Variabilities in PM2.5 and black carbon surface concentrations reproduced by aerosol optical properties estimated by *in-situ* data, ground based remote sensing and modeling. *Remote Sens*., **13(16)**, 3163, Aug. 2021 (10.3390/rs13163163).

Daneshvar, N., H. Azizi, Y. Asahara, M. Tsuboi, **M. Minami**, and Y. O. Mohammad, Geochemistry and genesis of beryl crystals in the LCT pegmatite type, Ebrahim-Attar Montain, western Iran. *Minerals,* **11(7)**, 717, Jul. 2, 2021 (10.3390/min11070717).

Deng, Y. G., 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*, in press (10.5194/acp-22-5515-2022).

Ebihara, Y., S. Watari, and **S. Kumar**, Prediction of geomagnetically induced currents (GICs) flowing in Japanese power grid for Carrington-class magnetic storms. *Earth Planets Space*, **73(1)**, 163, Aug. 16, 2021 (10.1186/s40623-021-01493-2).

Egusa, T., T. Oda, T. Sato, and **T. Kumagai**, Estimation of sub-annual inter-catchmentgroundwater flow using short-term water balance method. *Hydrol. Process*., **35(9)**, e14368, Sep. 2021 (10.1002/hyp.14368).

Enami, M., **Y. Wakasgi**, and M. Tsuboi, Local CO^2 variation and evolution of metamorphic fluid at the lithologic boundary recorded in Sanbagawa metamorphic rocks, Central Shikoku, Japan. *Contrib. Mineral. Petrol*., **176(8)**, 11, Jul. 26, 2021 (10.1007/s00410-021-01817-1).

Enami, M., A. Nishii, T. Mouri, M. Tsuboi, and Y. Kouketsu, Fe-rich olivine from an andesite dike in Miocene Shitara volcanic

rocks, central Japan: a revised relationship between Mg/Fe ratio and Raman spectrum in olivine. *J. Mineral. Petrol. Sci.*, **116(3)**, 113–120, Jun. 2021 (10.2465/jmps.201204).

Enoto, T., T. Terasawa, S. Kisaka, C. P. Hu, S. Guillot, N. Lewandowska, C. Malacaria, P. S. Ray, W. C. G. Ho, A. K. Harding et al. (**M. Tokumaru**), Enhanced x-ray emission coinciding with giant radio pulses from the Crab Pulsar. *Science*, **372(6538)**, 187–190, Apr. 9, 2021 (10.1126/science.abd4659).

Feng, C., **J. Ishizaka**, K. Saitoh, T. Mine, and Z. J. Zhou, Detection and tracking of *Chattonella* spp. and *Skeletonema* spp. blooms using Geostationary Ocean Color Imager (GOCI) in Ariake Sea, Japan. *J. Geophys. Res.-Oceans*, **126(7)**, e2020JC016924, Jul. 2021 (10.1029/2020JC016924).

Feng, C., J**. Ishizaka**, and S. Wang, A simple method for algal species discrimination in East China Sea, using multiple satellite imagery. *Geosci. Lett.*, **9(1)**, 12, Feb. 27, 2022 (10.1186/s40562-022-00222-1).

Fujime, N., **T. Kumagai**, T. Egusa, H. Moriyama, and Y. Uchiyama, Importance of calibration in determining forest stand transpiration using the thermal dissipation method. *Agric. For. Meteorol*., **301–302**, 108356, May 15, 2021 (10.1016/j.agrformet.2021.108356).

Fujinami, H., K. Fujita, **N. Takahashi**, T. Sato, H. Kanamori, S. Sunako, and R. B. Kayastha, Twice-daily monsoon precipitation maxima in the Himalayas driven by land surface effects. *J. Geophys. Res. Atmos*., **126(13),** e2020JD034255, Jul. 16, 2021 (10.1029/2020JD034255).

Fukizawa, M., T. Sakanoi, **Y. Miyoshi**, Y. Kazama, Y. Katoh, Y. Kasahara, S. Matsuda, A. Kumamoto, F. Tsuchiya, A. Matsuoka et al. (**S. Nakamura**, **M. Shoji**, **C.-W. Jun**), Statistical study of approaching strong diffusion of low-energy electrons by chorus and ECH waves based on *in situ* observations. *J. Geophys. Res. Space Phys*., **127(3)**, e2022JA030269, Mar. 2022 (10.1029/2022JA030269).

Garcia, R., M. Anzorena, J. F. Valdes-Galicia, **Y. Matsubara**, T. Sako, E. Ortiz, A. Hurtado, R. Taylor, O. Musalem, L. X. Gonzalez, **Y. Itow**, **T. Kawabata** et al., Particle identification and analysis in the SciCRT using machine learning tools. Nucl. Instrum. *Methods Phys. Res. Sect. A-Accel. Spectrom. Dect. Assoc. Equip*., **1003**, 165326-1–165326-11, Jul. 1, 2021(10.1016/j.nima.2021.165326).

Georgoulis, M. K., D. S. Bloomfield, M. Piana, A. M. Massone, M. Soldati, P. T. Gallagher, E. Pariat, N. Vilmer, E. Buchlin, F. Baudin et al. (**S.-H. Park**), The flare likelihood and region eruption forecasting (FLARECAST) project: flare forecasting in the big data & machine learning era. *J. Space Weather Space Clim*., **11**, 39, Jul. 22, 2021 (10.1051/swsc/2021023).

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*, in press (10.1016/j.lithos.2022.106658).

Giono, G., J. J. Zender, **R. Kariyappa**, and L. Dame, Origin of the solar rotation harmonics seen in the EUV and UV irradiance. *Sol. Phys.*, **296(11)**, 172, Nov. 2021 (10.1007/s11207-021-01918-x).

Gohl, K., G. Uenzelmann-Neben, J. Gille-Petzoldt, C.-D. Hillenbrand, J. P. Klages, S. M. Bohaty, S. Passchier, T. Frederichs, J. S. Wellner, R. Lamb et al. (**M. Yamane**), Evidence for a highly dynamic West Antarctic Ice Sheet during the Pliocene. *Geophys. Res. Lett*., **48(14)**, e2021GL093103, Jul. 28, 2021 (10.1029/2021GL093103).

Goto, Y., and N. Sato, Relationship between the upper-level winds and the horizontal movement of localized heavy rainfall in the afternoon of summer days around Tokyo. *SOLA*, **18**, 8–12, Feb. 2022 (10.2151/sola.2022-002).

Hadid, L. Z., V. N. Genot, S. Aizawa, A. Milillo, J. Zender, G. Murakami, J. Benkhoff, I. Zouganelis, T. Alberti, N. André et al. (**K. Iwai**, **Y. Miyoshi)**, BepiColombo's cruise phase: unique opportunity for synergistic observations. *Front. Astron.*

Space Sci., **8**, 718024, Sep. 14, 2021 (10.3389/fspas.2021.718024).

Hall, C. M., and **S. Nozawa**, On the temporal evolution of turbopause altitude, 1996–2021, 70°N, 19°E, *Experimental Results*, **2**, E17, Jun. 4, 2021 (10.1017/exp.2021.6).

Han, B., J. Niang, H. Rao, N. Lyu, **H. Oda**, S. Sakamoto, Y. Yang, and M. Sablier, Paper fragments from the Tibetan Samye Monastery: Clues for an unusual sizing recipe implying wheat starch and milk in early Tibetan papermaking. *J. Archaeol. Sci. Rep*., **36**, 102793, Apr. 2021 (10.1016/j.jasrep.2021.102793).

Han, C., A. Udalski, D. Kim, Y.-K. Jung, C.-U. Lee, I. A. Bond, M. D. Albrow, S.-J. Chung, A. Gould, K.-H. Hwang et al. (**F. Abe**, **H. Fujii**, **Y. Itow**, **Y. Matsubara, Y. Muraki)**, KMT-2019-BLG-1715: Planetary microlensing event with three lens masses and two source stars. *Astron. J*., **161(6)**, 270, Jun. 2021 (10.3847/1538-3881/abf4d0).

Han, C., A. Gould, Y. Hirao, C.-U. Lee, M. D. Albrow, S.-J. Chung, K.-H. Hwang, Y. K. Jung, D. Kim, S. Mao et al. (**F. Abe**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki)**, KMT-2021-BLG-0322: Severe degeneracy between triple-lens and higher-order binary-lens interpretations. *Astron. Astrophys*., **655**, A24, Nov. 4, 2021(10.1051/0004-6361/202141939).

Han, C., I. A. Bond, J. C. Yee, W. C. Zang, M. D. Albrow, S.-J. Chung, A. P. Gould, K.-H. Hwang, Y. K. Jung, D. Kim et al. (**F. Abe**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki)**, KMT-2021-BLG-0912Lb: a microlensing super Earth around a K-type star. *Astron. Astrophys.*, **658**, A94, Feb. 4, 2022 (10.1051/0004-6361/202142495).

Hashimoto, K., **A. Shinbori**, **Y. Otsuka**, F. Tsuchiya, A. Kumamoto, Y. Kasahara, A. Matsuoka, I. Nagano, **Y. Miyoshi**, and T. Yokoyama, Propagation mechanism of medium wave broadcasting waves observed by the Arase satellite: Hectometric line spectra. *J. Geophys. Res. Space Phys*., **126(11)**, e2021JA029813, Nov. 2021 (10.1029/2021JA029813).

Hanninan, J. W., I. Ortega, S. B. Shams, T. Blumenstock, J. E. Campbell, S. Conway, V. Flood, O. Garcia, D. Griffith, M. Grutter et al. (**T. Nagahama**), Global atmospheric OCS trend analysis from 22 NDACC stations. *J. Geophys. Res. Atmos.*, 1**27(4)**, e2021JD035764, Feb. 27, 2022 (10.1029/2021JD035764).

Hattori, K., **H. Hayakawa**, and Y. Ebihara, The extreme space weather events in October 1788. *Publ. Astron.Soc. Jpn*, **73(5)**, 1367–1374, Oct. 2021 (10.1093/pasj/psab079).

Hattori, K., **H. Hayakawa**, and Y. Ebihara, Great 'space weather events' in March 1653 and September 1672 were not supported with simultaneous/clustering auroral observations during the Maunder Minimum. *Front. Astron. Space Sci.*, **9**, 832618, Mar. 16, 2022 (10.3389/fspas.2022.832618).

Hayakawa, H., M. Soma, and J. H. Kinsman, Analyses of a datable solar eclipse record in Maya Classic period monumental inscription. *Publ. Astron.Soc. Jpn*, **73(6)**, L31–L36, Dec. 20, 2021 (10.1093/pasj/psab088).

Hayakawa, H., T. Iju, **S. Uneme**, B. P. Besser, S. Kosaka, and **S. Imada**, Reanalyses of the sunspot observations of Fogelius and Siverus: Two "Long-Term" observers during the Maunder Minimum. *Mon. Not. Roy. Astron. Soc*., **506(1)**, 650–658, Sep. 2021 (10.1093/mnras/staa2965).

Hayakawa, H., **S. Uneme**, B. P. Besser, T. Iju, and **S. Imada**, Stephan Prantner's sunspot observations during the Dalton Minimum. *Astrophys. J*., **919(1)**, 1, Sep. 2021 (10.3847/1538-4357/abee1b).

Hayakawa, H. T. Iju, C. Kuroyanagi, V. M. S. Carrasco, B. P. Besser, **S. Uneme**, and **S. Imada**, Johann Christoph Müller's sunspot observations in 1719–1720: Snapshots of the immediate aftermath of the Maunder Minimum. *Sol. Phys*., **296(10)**, 154, Oct. 2021 (10.1007/s11207-021-01880-8).

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.*, in press (10.1002/gdj3.140).

Hayakawa, H., T. Iju, **S. Uneme**, B. P. Besser, S. Kosaka, and **S. Imada**, Reanalyses of the sunspot observations of Fogelius and Siverus: two 'long-term' observers during the Maunder minimum. *Mon. Not. Roy. Astron. Soc*., **506(1)**, 650–658, Sep.

2021 (10.1093/mnras/staa2965).

Hayakawa, H., H. Nevanlinna, S. P. Blake, Y. Ebihara, A. T. Bhaskar, and **Y. Miyoshi**, Temporal variations of the three geomagnetic field components at Colaba Observatory around the Carrington storm in 1859. *Astrophys. J.*, **928(1)**, 32, Mar. 24, 2022 (10.3847/1538-4357/ac2601).

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 20-25 March 1940. *Mon. Not. Roy. Astron. Soc*., in press (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.* , in press (10.1029/2021JA029965).

Heilig, B., C. Stolle, G. Kervalishvili, J. Rauberg, **Y. Miyoshi**, F. Tsuchiya, A. Kumamoto, Y. Kasahara, **M. Shoji**, **S. Nakamura**, **M. Kitahara**, and I. Shinohara, Relation of the plasmapause to the midlatitude ionospheric trough, the sub-auroral temperature enhancement and the distribution of small-scale field aligned currents as observed in the magnetosphere by THEMIS, RBSP, and Arase, and in the topside ionosphere by Swarm. *J. Geophys. Res. Space Phys*., **127(3)**, e2021JA029646, Mar. 2022 (10.1029/2021JA029646).

Hioki, T., and **K. Tsuboki**, Trajectory Analyses on the warm core development and pressure falls of a developing typhoon as simulated by a cloud-resolving model. *J. Meteorol. Soc. Jpn*., **99(5)**, 1329–1350, Oct. 2021 (10.2151/jmsj.2021-064).

Hirata, H., R. Kawamura, M. Nonaka, and **K. Tsuboki**, Kuroshio-enhanced convective rainband associated with an extratropical cyclone in the cold season. *J. Meteorol. Soc. Jpn.*, **99(4)**, 899–912, Aug. 2021 (10.2151/jmsj.2021-043).

Hirose, M., S. Shige, T. Kubota, **F. A. Furuzawa**, **H. Minda**, and **H. Masunaga**, Refinement of surface precipitation estimates for the Dual-frequency Precipitation Radar on the GPM Core Observatory using near-nadir measurements. *J. Meteorol. Soc. Jpn*., **99(5)**, 1231–1252, Oct. 2021 (10.2151/jmsj.2021-060).

Hisadomi, S., K. Nakazawa, Y. Wada, Y. Tsuji, T. Enoto, **T. Shinoda**, T. Morimoto, Y. Nakamura, T. Yuasa, and H. Tsuchiya, Multiple gamma-ray glows and a downward TGF observed from nearby thunderclouds. *J. Geophys. Res. Atmos*., **126(18)**, e2021JD034543, Sep. 27, 2021 (10.1029/2021JD034543).

Hosokawa K., M. Nagata, **K. Shiokawa,** and **Y. Otsuka**, What controls the luminosity of polar cap airglow patches?: Implication from airglow measurements in Eureka, Canada in comparison with SuperDARN convection pattern. *Polar Sci.*, **28**, 100608, Jun. 2021 (10.1016/j.polar.2020.100608).

Hosokawa, K., **Y. Miyoshi**, **S. I. Oyama**, Y. Ogawa, S. Kurita, Y. Kasahara, Y. Kasaba, S. Yagitani, S. Matsuda, M. Ozaki et al., Over-darkening of pulsating aurora. *J. Geophys. Res. Space Phys*., **126(4)**, e2020JA028838, Apr. 2021 (10.1029/2020JA028838).

Hotta, H., and **K. Kusano**, Solar differential rotation reproduced with high-resolution simulation. *Nat. Astron*., **5**, 1100–1102, Nov. 2011 (10.1038/s41550-021-01459-0).

Huang, F., J. Lei, **Y Otsuka**, X. Luan, Y. Liu, J. Zhong, and X. Dou, Characteristics of medium-scale traveling ionospheric disturbances and ionospheric irregularities at mid-latitudes revealed by the total electron content associated with the Beidou geostationary satellite. *IEEE Trans. Geosci. Remote Sensing*, **59(8)**, 6424–6430, Aug. 2021 (10.1109/TGRS.2020.3032741).

Hwang, K.-H., W. Zang, A. Gould, I. A. Bond, H. Yang, S. Mao, M. D. Albrow, S.-J. Chung, C. Han, Y. K. Jung et al. (**F. Abe**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki)**, Systematic KMTNet planetary anomaly search, II. Six new $q < 2 \times 10^{-4}$ mass-ratio planets. *Astron. J.*, **163(2)**, 43, Feb. 1, 2022 (10.3847/1538-3881/ac38ad).

Ieda, A., Curved trajectory effect on charge-exchange collision at ionospheric temperatures. *J. Geophys. Res. Space Phys.*, **127(2)**, E2021ja029612, Feb. 2022 (10.1029/2021JA029612).

Iijima, H., Energy-consistent finite difference schemes for compressible hydrodynamics and magnetohydrodynamics using nonlinear filtering. *J. Comput. Phys*., **435**, 110232, Jul. 2021 (10.1016/j.jcp.2021.110232).

Iijima, H., and **S. Imada**, A new broadening technique of numerically unresolved solar transition region and its effect on the spectroscopic synthesis using coronal approximation. *Astrophys. J*., **917(2)**, 65, Aug. 20, 2021 (10.3847/1538-4357/ac07a5).

Imada, S., Nonequilibrium ionization plasma during a large solar limb flare observed by Hinode/EIS. *Astrophys. J. lett.*, **914(2)**, L28, Jun. 17, 2021 (10.3847/2041-8213/ac063c).

Imajo, S., **M. Nosé**, M. Aida, H. Matsumoto, N. Higashio, T. Tokunaga, and A. Matsuoka, Signal and noise separation from satellite magnetic field data through independent component analysis: Prospect of magnetic measurements without boom and noise source information. *J. Geophys. Res. Space Phys.*, **126(5)**, e2020JA028790, May 2021 (10.1029/2020JA028790).

Inaba, Y., **K. Shiokawa**, **S. Oyama**, **Y. Otsuka**, M. Connors, I. Schofield, **Y. Miyoshi**, **S. Imajo**, **A. Shinbori** et al. (**T. Hori**, **M. Shoji**, **M. Kitahara**, **S. Nakamura)**, Multi-event analysis of plasma and field variations in source of stable auroral red (SAR) arcs in inner magnetosphere during non-storm-time substorms. *J. Geophys. Res. Space Phys*., **126(4)**, e2020JA029081, Apr. 2021 (10.1029/2020JA029081).

Inoue, S., and **Y. Bamba**, An MHD modeling of the successive X2.2 and X9.3 solar flares of 2017 September 6, *Astrophys. J*., **914(1)**, 71, Jun. 16, 2021 (10.3847/1538-4357/abf835).

Ishii, M., D. Shiota, C. Tao, Y. Ebihara, H. Fujiwara, T. Ishii, K. Ichimoto, R. Kataoka, K. Kogau, Y. Kubo, **K. Kusano**, **Y. Miyoshi** et al., Space weather benchmarks on Japanese society. *Earth Planets Space*, **73(1)**, 108, May 18, 2021 (10.1186/s40623-021-01420-5).

Johnson, K. M., R. M. McKay, J. Etourneau, F., J. Jimenez-Espejo, A. Albot, C. R. Riesselman, N. A. N. Bertler, H. J. Horgan, X. Crosta, J. Bendle et al. (**M. Yamane**), Sensitivity of Holocene East Antarctic productivity to subdecadal variability set by sea ice. *Nat. Geosci*., **14**, 762–768, Oct. 2021 (10.1038/s41561-021-00816-y).

Jun, C-W., **Y. Miyoshi**, S. Kurita, C. Yue, J. Bortnik, L. Lyons, **S. Nakamura**, **M. Shoji**, **S. Imajo**, C. Kletzing et al., The characteristics of EMIC waves in the magnetosphere based on the Van Allen Probes and Arase observations. *J. Geophys. Res. Space Phys.*, **126(6)**, e2020JA029001, Jun. 2021 (10.1029/2020JA029001).

Junno, A., J. P. R. Dury, **C. Leipe**, M. Wagner, P. E. Tarasov, Y. Hirasawa, P. D. Jordan, and H. Kato, Building a high-resolution chronology for northern Hokkaido −A case study of the Late Holocene Hamanaka 2 site on Rebun Island, Hokkaido (Japan). *J. Archaeol. Sci.-Rep*., **36**, 102867, Apr. 2021 (10.1016/j.jasrep.2021.102867).

Kamaeyama, K., Y. Kanno, **S. Ohishi**, H. Tomita, **Y. Fukutomi**, and **H. Aiki**, Sporadic low salinity signals in the oceanic mixed layer observed by the Kuroshio Extension Observatory buoy. *Front. Clim.*, **4**, 820490, Mar. 31, 2022 (10.3389/fclim.2022.820490).

Kamiya, K., K. Koga, **S. Masuda**, H. Matsumoto, **Y. Muraki**, O. Okudaira, S. Shibata, **H. Tajima**, Y. Tanaka, T. Yamamoto, and K. Watanabe, High-energy gamma-rays and neutrons observed in very impulsive solar flare on 2012 June 3. *Publ. Astron.Soc. Jpn*, **73(6)**, 1443–1469, Dec. 2021 (10.1093/pasj/psab089).

Kanada, S., **H. Aiki**, and **K. Tsuboki**, Projection of future enhancement of heavy rainfalls associated with tuphoon Hagibis (2019) using a regional 1-km-mesh atmosphere-ocean coupled model. *SOLA*, **17A**, 38–44, Jul. 27, 2021 (10.2151/sola.17A-007).

Kanekal, S., and **Y. Miyoshi**, Dynamics of the terrestrial radiation belts: a review of recent results during the VarSITI (Variability of the Sun and Its terrestrial Impact) era, 2014-2018. *Prog. Earth. Planet. Sci.*, **8**, 35, May 31, 2021 (10.1186/s40645-021-00413-y).

Kanzawa, K., **F. Miyake**, K. Horiuchi, K. Sasa, K. Takano, M. Matsumura, T. Takahashi, Y. Motizuki, K. Takahashi, Y. Nakai et al. (**Y. Tada)**, High-resolution ^{10}Be and ^{36}Cl data from the Antarctic Dome Fuji ice core (～100 years around 5480 BCE): An unusual grand solar minimum occurrence? *J. Geophys. Res. Space Phys.*, **126(10)**, e2021JA029378, Oct. 2021 (10.1029/2021JA029378).

Karna, N., M. A. Berger, M. Asgari-Targhi, K. Paulson, and **K. Fujiki**, A study of an equatorial coronal hole observed at the first Parker Solar Probe perihelion. *Astrophys. J.*, **925(1)**, 62, Jan. 25, 2022 (10.3847/1538-4357/ac3c46).

Kasai, Y., **C. Leipe**, M. Saito, **H, Kitagawa**, S. Lauterbach, A. Brauer, P. E. Tarasov, T. Goslar, F. Arai, and S. Sakuma, Breakthrough in purification of fossil pollen for dating of sediments by a new large-particle on-chip sorter. *Sci. Adv.*, **7(16)**, eabe7327, Apr. 14, 2021 (10.1126/sciadv.abe7327).

Katsuta, N., Y. Okuda, **T. Nakamura**, **H. Oda**, **A. Ikeda**, S. Naito, M. Kagawa, and S. I. Kawakami, Radiocarbon analysis of tree ring for a catastrophic collapse in the northern Yatsugatake volcanoes: Its implication for seismotectonics in southwest Japan. *Quat. Int*., **604**, 68–74, Dec. 10, 2021 (10.1016/j.quaint.2021.05.007).

Kawabata, R., T. Imayama, **T. Kato**, C.-W. Oh, K. Horie, and M. Takehara, Multi-stage metamorphic history of the Oki gneisses in Japan: Implications for Paleoproterozoic metamorphism and tectonic correlations in northeastern Asia. *J. Metamorph. Geol*., **40(2),** 257–286, Feb. 2022 (10.1111/jmg.12627).

Kawaguchi, K., **R. Fujimori**, J. Tang, and T. Ishikawa, Infrared spectroscopy of difference and combination bands of the NO^3 radical and anharmonicity analysis. *J. Mol. Spectrosc*., **385**, 111594, Mar. 2022 (10.1016/j.jms.2022.111594).

Kawahara, H., H. Yoshida, K. Yamamoto, N. Katsuta, S. Nishimoto, A. Umemura, and **R. Kuma**, Hydrothermal formation of Fe-oxide bands in zebra rocks from northern Western Australia. *Chem. Geol.*, **590**, 120699, Feb. 20, 2022 (10.1016/j.chemgeo.2021.120699).

Kawahara, T. D., **S. Nozawa**, N. Saito, T. T. Tsuda, **T. Kawabata** and S. Wada, Mesopause temperature and wind observations by a narrowband Na lidar. *Journal of Laser Radar Society of Japan,* in press.

Kawai, K., M. Takeuchi, Y. Shimura, K. Sato, and **M. Minami**, Zircon U–Pb ages of the Mesozoic systems in the northern Shimonita area, Kanto Mountains, central Japan. *Bull.Gunma Mus.Natu.Hist*, **26**, 75–90, Mar. 2022.

Kawai, K., **K. Shiokawa**, **Y. Otsuka**, **S. Oyama**, Y. Kasaba, Y. Kasahara, F. Tsuchiya, A. Kumamoto, **S. Nakamura**, A. Matsuokaet al. (**T. Hori**, **Y. Miyoshi**, **C. Jun**, **M. Shoji)**, First simultaneous observation of a night time medium-scale traveling ionospheric disturbance from the ground and a magnetospheric satellite. *J. Geophys. Res. Space Phys*., **126(9)**, e2020JA029086, Sep. 2021 (10.1029/2020JA029086).

Kawai, T., and **S. Imada**, The energy conversion rate of an active region transient brightening estimated by Hinode spectroscopic observations. *Astrophys. J.*, **918(2)**, 51, Sep. 7, 2021 (10.3847/1538-4357/ac09eb).

Kawamura, M., T. Sakanoi, M. Fukizawa, **Y. Miyoshi**, K. Hosokawa, F. Tsuchiya, Y. Katoh, Y. Ogawa, K. Asamura, S. Saito et al. (**S. Oyama**), Simultaneous pulsating aurora and microburst observatiosns with ground-based fast auroral imagers and Cubesat Firebird-II. *Geophys. Res. Lett*., **48(18)**, e2021GL094494, Sep. 28, 2021 (10.1029/2021GL094494).

Kazama, Y., **Y. Miyoshi**, H. Kojima, Y. Kasahara, S. Kasahara, H. Usui, B.-J. Wang, S.-Y. Wang, S. W. Y. Tam, T. F. Chang et al. (**M. Shoji)**, Arase observation of simultaneous electron scatterings by upper-band and lower-band chorus emissions. *Geophys. Res. Lett*., **48(14)**, e2021GL093708, Jul. 28, 2021 (10.1029/2021GL093708).

Keika, K., S. Kasahara, S. Yokota, M. Hoshino, K. Seki, T. Amano, L. M. Kistler, **M. Nosé**, **Y. Miyoshi**, **T. Hori**, and I. Shinohara,

Preferential energization of lower-charge-state heavier ions in the near-Earth magnetotail. *J. Geophys. Res. Space Phys*., **127(1)**, e2021JA029786, Jan. 2022 (10.1029/2021JA029786).

Kikuchi, T., Y. Ebihara, K. K. Hashimoto, K. Kitamura, and S.-I. Watari, Reproducibility of the geomagnetically induced currents at middle latitudes during space weather disturbances. *Front. Astron. Space Sci.*, **8**, 759431, Oct. 11, 2021 (10.3389/fspas.2021.759431).

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*, in press (10.3390/atmos13040580).

Kim, H., **K. Shiokawa**, J. Park, **Y. Miyoshi**, Y. Miyashita, C. Stolle, H. K. Connor, J. Hwang, S. Buchert, H.-J. Kwon, **S. Nakamura**, **K. Nakamura**, **S.-I. Oyama**, **Y. Otsuka** et al., Isolated proton aurora driven by EMIC Pc1 wave: PWING, Swarm, and NOAA POES multi-instrument observations. *Geophys. Res. Lett.*, **48(18)**, e2021GL095090, Sep. 20, 2021 (10.1029/2021GL095090).

Kim. Y. H., S.-J. Chung, J. C. Yee, A. Udalski, I. A. Bond, Y. K. Jung, A. Gould, M. D. Albrow, C. Han, K.-H. Hwang et al. (**F. Abe**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), KMT-2019-BLG-0371 abd the limits of Bayesian analysis. *Astron. J*., **162(1)**, 17, Jul. 2021 (10.3847/1538-3881/abf930).

Kishimoto, Y., Y. Suzuki, I. Ogawa, Y. Mori, and **M. Yamashita**, Development of a cavity with photonic crystal structure for axion searches. *Prog. Theor. Exp. Phys*., **2021(6)**, 063H01, Jul. 2021 (10.1093/ptep/ptab051).

Kitamura, N., K. Seki, K. Keika, Y. Nishimura, **T. Hori**, **M. Hirahara**, E. J. Lund, L. M. Kistler, and R. J. Strangeway, On the relationship between energy input to the ionosphere and the ion outflow flux under different solar zenith angles. *Earth Planets Space*, **73**, 202, Nov. 6, 2021 (10.1186/s40623-021-01532-y).

Kitamura, N., **M. Shoji**, **S. Nakamura**, **M. Kitahara**, T. Amano, Y. Omura, H. Hasegawa, S. A. Boardsen, **Y. Miyoshi**, Y. Katoh et al. (**M. Hirahara)**, Energy transfer between hot protons and electromagnetic ion cyclotron waves in compressional Pc5 ultra-low frequency waves. *J. Geophys. Res. Space Phys.*, **126(5)**, e2020JA028912, May 2021 (10.1029/2020JA028912).

Knipp, D. J., V. Bernstein, K. Wahl, and **H. Hayakawa**, Timelines as a tool for learning about space weather storms. *J. Space Weather Space Clim.*, **11**, 29, Apr. 14, 2021 (10.1051/swsc/2021011).

Kobayashi, T., M. Nomura, A. Adachi, S. Sugimoto, **N. Takahashi**, and H. Hirakuchi, Retrieval of attenuation profiles from the GPM 5 dual-frequency radar observations. *J. Meteorol. Soc. Jpn*., **99(3)**, 603–620, Jun. 2021 (10.2151/jmsj.2021-030).

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*., in Press (10.1002/jqs.3290).

Kondo, I., J. C. Yee, D. P. Bennett, T. Sumi, N. Koshimoto, I. A. Bond, A. Gould, A. Udalski, Y. Shvartzvald, Y. K. Jung et al. (**F. Abe**, **H. Fujii**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), OGLE-2018-BLG-1185b: A low-mass microlensing planet orbiting a low-mass dwarf. *Astron. J.*, **162(2)**, 77, Aug. 2021 (10.3847/1538-3881/ac00ba).

Kondo, M., S. Sitch, P. Ciais, F. Achard, E. Kato, J. Pongratz, R. A. Houghton, J. G. Canadell, P. K. Patra, P. Friedlingstein et al., Are land-use change emissions in Southeast Asia decreasing or increasing? *Glob. Biogeochem. Cycle*, **36(1)**, e2020GB006909, Jan. 2022 (10.1029/2020GB006909).

Kubota, K., K. Shirai, N. Murakami-Sugihara, K. Seike, **M. Minami**, **T. Nakamura**, and K. Tanabe, Evidence of mass mortality of the long-lived bivalve Mercenaria stimpsoni caused by a catastrophic tsunami. *Radiocarbon*, **63(6)**, 1629–1644,

Dec. 2021 (10.1017/RDC.2021.98).

Kumar, S., **Y. Miyoshi**, V. K. Jordanova, M. Engel, K. Asamura, S. Yokota, S. Kasahara, Y. Kazama, S. Y. Wang, T. Mitani et al. (**T. Hori**, **C. Jun**), Contribution of electron pressure to ring current and ground magnetic depression using RAM-SCB simulations and Arase observations during 7–8 November 2017 magnetic storm. *J. Geophys. Res. Space Phys*. , **126(6)**, e2021JA029109, Jun. 2021 (10.1029/2021JA029109).

Kusano, K., K. Ichimoto, M. Ishii, **Y. Miyoshi**, S. Yoden, H. Akiyoshi, A. Asai, Y. Ebihara, H. Fujisawa, T.-N. Goto et al. (**H. Hayakawa**, **S. Imada**, **K. Iwai**, **T. Kikuchi**, **S. Nakamura**, **Y. Otsuka**, **K. Shiokawa)**, PSTEP: project for solar–terrestrial environment prediction. *Earth Planets Space*, **73(1)**, 159, Aug. 25, 2021 (10.1186/s40623-021-01486-1).

Leipe, C., A. Aquaro, and P. E. Tarasov, Scanning electron microscopy for differentiating charred endocarps of Rhus/Toxicodendron species and tracking the use of the lacquer tree and Asian poison ivy in Japanese prehistory. *J. Archaeol. Sci.-Rep*., **41**, 103335, Feb. 2022 (10.1016/j.jasrep.2021.103335).

Leipe, C., E. Endo, S. Kuramochi, M. Wagner, and P. E. Tarasov, Crop cultivation of Middle Yayoi culture communities (fourth centurybce-first centuryce) in the Kanto region, eastern Japan, inferred from a radiocarbon-dated archaeobotanical record. *Veg. Hist. Archaeobot.*, **30**, 409–421, Aug. 5, 2021 (10.1007/s00334-020-00791-1).

Li, H. M., J.-H. Shue, S. Taguchi, **M. Nosé**, K. Hosokawa, J. M. Ruohoniemi, Y. Zhang, S. Wing, and M. Lester, Dayside cusp aurorae and ionospheric convection under radial interplanetary magnetic fields. *J. Geophys. Res. Space Phys*., **126(5)**, e2019JA027664, May 2021 (10.1029/2019JA027664).

Li, Z. M., **H. Aiki**, M. Nagura, and T. Ogata, The vertical structure of annual wave energy flux in the tropical Indian Ocean. *Prog. Earth. Planet. Sci.*, **8(1)**, 43, Jul. 13, 2021 (10.1186/s40645-021-00432-9).

Li, Z. M., and **H. Aiki,** The 1994 positive Indian Ocean Dipole event as investigated by the transfer routes of oceanic wave energy. *J. Phys. Oceanogr*., **52(3)**, 459–473, Mar. 1, 2022 (10.1175/JPO-D-21-0189.1).

Lin, P. H., **K. Kusano**, and **K. D. Leka**, Eruptivity in solar flares: The challenges of magnetic flux ropes. *Astrophys. J*., **913(2)**, 124, Jun. 2021 (10.3847/1538-4357/abf3c1).

Lin, J.-W., C.-Y. Lee, C.-H. Chen, **T. Kato**, Y. Sano, and N. Takahata, Buchan type metamorphism in the Pingtan-Dongshan metamorphic belt, SE China: Evidence from combined EMP monazite and U-Pb zircon ages of mica schists. *J. Asian Earth Sci.*, **218**, 104891, Sep. 15, 2021 (10.1016/j.jseaes.2021.104891).

Liu, H., X. He, Q. Li, X. Hu, **J. Ishizaka**, S. Kratzer, C. Yang, T. Shi, S. Hu, Q. Zhou, and G. Wu, Evaluation of ocean colour atmospheric correction methods for Sentinel-3 OLCI using global automatic *in-situ* observations. *IEEE Trans. Geosci. Remote Sensing*, **60**, 4206319, Dec. 16, 2021 (10.1109/TGRS.2021.3136243).

Luang-on, J., **J. Ishizaka**, A. Buranapratheprat, J. Phaksopa, J. I. Goes, H. Kobayashi, M. Hayashi, E. de R. Maúre, and S. Matsumura, Seasonal and interannual variations of MODIS Aqua chlorophyll-a (2003-2017) in the Upper Gulf of Thailand influenced by Asian monsoons. *J. Oceanogr*., in Press (10.1007/s10872-021-00625-2).

Ma, T., P. E. Tarasov, K. Huang, **C. Leipe**, M. Man, and Z. Zheng, Intensified climate drying and cooling during the last glacial culmination (20.8-17.5 cal ka BP) in the south-eastern Asian monsoon domain inferred from a high-resolution pollen record. *Quat. Sci. Rev.*, **278**, 107371, Feb. 15, 2022 (10.1016/j.quascirev.2022.107371).

Martín, S., J. G. Mangum, N. Harada, F. Costagliola, K. Sakamoto, S. Muller, R. Aladro, K. Tanaka, Y. Yoshimura, K. Nakanishi et al. (**T. Nakajima)**, ALCHEMI, an ALMA Comprehensive High-resolution Extragalactic Molecular Inventory Survey presentation and first results from the ACA array. *Astron. Astrophys*., **656**, A46, Dec. 3, 2021 (10.1051/0004-6361/202141567).

Martinez-Calderon, C., J. K. Manninen, J. T. Manninen, and T. Turunen, A review of unusual VLF bursty-patches observed in

Northern Finland for Earth, Planets and Space. *Earth Planets Space*, **73**, 191, Oct. 19, 2021 (10.1186/s40623-021-01516-y).

Matsui, H., R. B. Torbert, H. E. Spence, M. R. Argall, I. J. Cohen, M. B. Cooper, R. E. Ergun, C. J. Farrugia, J. F. Fennell, S. A. Fuselier et al. (**M. Shoji)**, A multi-instrument study of a dipolarization event in the inner magnetosphere. *J. Geophys. Res. Space Phys.*, **126(5)**, e2021JA029294, May 2021 (10.1029/2021JA029294).

Matsuda, S., H. Kojima, Y. Kasahara, Y. Kasaba, A. Kumamoto, F. Tsuchiya, A. Matsuoka, **Y. Miyoshi**, and I. Shinohara, Direct antenna impedance measurement for quantitative AC electric field measurement by Arase. *J. Geophys. Res. Space Phys.*, **126(6)**, e2020JA029001, Jun. 2021 (10.1029/2021JA029111).

Matsuda, S., **Y. Miyoshi**, **S. Nakamura**, **M. Kitahara**, **M. Shoji**, **T. Hori**, **S. Imajo**, **C-W. Jun**, S. Kurita, Y. Kasahara et al., ISEE_Wave: interactive plasma waves analysis tool. *Earth Planets Space*, **73**, 110, Jun. 10, 2021 (10.1186/s40623-021-01450-z).

Matsuda, S., **Y. Miyoshi**, **S. Nakamura**, **M. Kitahara**, **M. Shoji**, **T. Hori**, **S. Imajo**, **C-W. Jun**, S. Kurita, Y. Kasahara et al., Correction to: ISEE_Wave: interactive plasma wave analysis tool. *Earth Planets Space*, **73**, 125, May 20, 2021 (10.1186/s40623-021-01430-3).

Matsuda, S., **Y. Miyoshi**, Y. Kasahara, L. Blum, C. Colpitts, K. Asamura, Y. Kasaba, A. Matsuoka, F. Tsuchiya, A. Kumamoto et al. (**S. Nakamura**, **M. Kitahara**, **K. Shiokawa**, **S. Oyama)**, Multipoint measurement of fine-structured EMIC waves by Arase, Van Allen Probe A, and ground stations. *Geophys. Res. Lett.*, **48(23)**, E2021gl096488, Dec. 15, 2021 (10.1029/2021GL096488).

Matsui, H., R. B. Torbert, H. E. Spence, M. R. Argall, I. J. Cohen, M. B. Cooper, R. E. Ergun, C. J. Farrugia, J. F. Fennell, S. A. Fuselier et al. (**M. Shoji**), A multi-instrument study of a dipolarization event in the inner magnetosphere, *J. Geophys. Res. Space Phys*., **126(5)**, e2021JA029294, May 2021 (10.1029/2021JA029294).

Matsuoka, A., J. W. Campbell, S. B. Hooker, F. Steinmetz, K. Ogata, T. Hirata, H. Higa, V. S. Kuwahara, T. Isada, K. Suzuki, et al. (**J. Ishizaka**), Performance of JAXA's SGLI standard ocean color products for oceanic to coastal waters: chlorophyll a concentration and light absorption coefficients of colored dissolved organic matter. *J. Oceanogr*., in Press (10.1007/s10872-021-00617-2).

Maúre, E. d. R., G. Terauchi, **J. Ishizaka**, N. Clinton, and M. DeWitt, Globally consistent assessment of coastal eutrophication. *Nat. Commun*., **12**, 6142, Oct. 22, 2021 (10.1038/s41467-021-26391-9).

McCollough, J. P., **Y, Miyoshi**, G. P. Ginet, W, R. Johnston, Y.-J. Su, M. J. 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*, in press (10.1186/s40623-022-01605-6).

Min, K., J. Kim, Q. L. Ma, **C. W. Jun**, and K. J. Liu, Unusual high frequency EMIC waves: Detailed analysis of EMIC wave excitation and energy coupling between EMIC and magnetosonic waves. *Adv. Space Res*., **69(1)**, 35–47, Jan. 2022 (10.1016/j.asr.2021.07.039).

Min, K.-S., **K. Tsuboki,** M. K. Yoshioka, **Y. Moroda**, and **S. Kanada**, Formation mechanism of a stationary line-shaped precipitation system in the Kinki District, Japan -Case study on 1 September 2015 event-. *J. Meteorol. Soc. Jpn.*, **99(2)**, 357–377, Apr. 2021 (10.2151/jmsj.2021-017).

Miyake, F., P. Panyushkina, A. J. T. Jull, F. Adolphi, N. Brehm, S. Helama, **K. Kanzawa**, T. Moriya, R. Muscheler, K. Nicolussi et al., A single-year cosmic ray event at 5410 BCE registered in ^{14}C of tree rings. *Geophys. Res. Lett.*, **48(11)**, e2021GL093419, Jun. 16, 2021 (10.1029/2021GL093419).

Miyamoto, T., **S. Oyama**, T. Raita, K. Hosokawa, **Y. Miyoshi**, Y. Ogawa, and S. Kurita, Variations in cosmic noise absorption

in association with equatorward development of the pulsating auroral patch: A case study to estimate the energy spectra of auroral precipitating electrons. *J. Geophys. Res. Space Phys.*, **126(9)**, e2021JA029309, Sep. 2021 (10.1029/2021JA029309).

Miyashita, Y., T.-F. Chang, **Y. Miyoshi**, **T. Hori**, A. Kadokura, S. Kasahara, S.-Y. Wang, K. Keika, A. Matsuoka, Y. Tanaka et al. (**C. -W. Jun**, **M. Shoji)**, Magnetic field and energetic particle flux oscillations and high-frequency waves deep in the inner magnetosphere during substorm dipolarization: ERG observations. *J. Geophys. Res. Space Phys*., **126(9)**, e2020JA029095, Sep. 2021 (10.1029/2020JA029095).

Miyazaki, S., D. Suzuki, A. Udalski, N. Koshimoto, D. P. Bennett, N. J. Rattenbury, T. Sumi, **F. Abe**, R. K. Barry, A. Bhattacharya et al. (**Y. Itow**, **Y. Matsubara**, **Y. Muraki**), OGLE-2014-BLG-0319: A Sub-Jupiter-mass planetary event encountered degeneracy with different mass ratios and lens-source relative proper motions. *Astron. J*., **163(3)**, 123, Feb. 10, 2022 (10.3847/1538-3881/ac4960).

Miyoshi, Y., K. Hosokawa, S. Kurita, **S.-I. Oyama**, Y. Ogawa, S. Saito, I. Shinohara, A. Kero, E. Turunen, P. T. Verronen et al. (**T. Hor**i, **M. Shoji**, **C. Jun**, **S. Nakamura)**, Penetration of MeV electrons into the mesosphere accompanying pulsating aurorae. *Sci Rep.*, **11**, 13724, Jul. 13, 2021 (10.1038/s41598-021-92611-3).

Momiyama, H., **T. Kumagai**, and T. Egusa, Model analysis of forest thinning impacts on the water resources during hydrological drought periods. *For. Ecol. Manage*., **499**, 119593, Nov. 2011 (10.1016/j.foreco.2021.119593).

Mondal, S., **M. Sivakandan**, S. Sarkhel, M. V. Sunil Krishna, M. G. Mlynczak. J. M. Russell III, and G. Bharti, A case study of a thermally ducted undular mesospheric bore accompanied by ripples over the western Himalayan region. *Adv. Space Res.*, **68(3)**, 1425–1440, Aug. 1, 2021 (10.1016/j.asr.2021.03.026).

Mori, T., Y. Kondo, **S. Ohata**, K. Goto-Azuma, K. Fukuda, Y. Ogawa-Tsukagawa, N. Moteki, A. Yoshida, M. Koike, P. R. Sinha et al., Seasonal variation of wet deposition of black carbon at Ny-Ålesund, Svalbard. *J. Geophys. Res. Atmos.*, **126(12)**, E2020jd034110, Jun. 21, 2021 (10.1029/2020JD034110).

Morimoto, A., **Y. Mino**, A. Buranaprattheprat, A. Kaneda, S. Tong-U-Dom, K. Sunthawanic, X. Yu, and X. Guo, Hypoxia in the Upper Gulf of Thailand: Hydrographic observations and modeling. *J. Oceanogr.*, **77(6)**, 859–877, Dec. 2021 (10.1007/s10872-021-00616-3).

Morino, S., **N. Kurita**, N. Hirasawa, H. Motoyama, K. Sugiura, M. Lazzara, D. Mikolajczyk, L. Welhouse, L. Keller, and G. Weidner, Comparison of ventilated and unventilated air temperature measurements in inland Dronning Maud Land on the East Antarctic Plateau. *J. Atmos. Ocean. Technol*., **38(12)**, 2061–2070, Dec. 1, 2021 (10.1175/JTECH-D-21-0107.1).

Moriyama, H., **T. Kumagai**, and T. Egusa, Model analysis of forest thinning impacts on the water resources during hydrological drought periods. *For. Ecol. Manage.*, **499**, 119593, Nov. 1, 2021 (10.1016/j.foreco.2021.119593).

Moroda, Y., **K. Tsuboki**, S. Satoh, K. Nakagawa, T. Ushio, and S. Shimizu, Structure and evolution of precipitation cores in an isolated convective storm observed by phased array weather radar. *J. Meteorol. Soc. Jpn*., **99(3)**, 765–784, Jun. 2021 (10.2151/jmsj.2021-038).

Motlagh, N. H., M. A. Zaidan, P. L. Fung, E. Lagerspetz, K. Aula, S. Varjonen, M. Siekkinen, A. Rebeiro-Hargrave, T. Petäjä, **Y. Matsumi** et al., Transit pollution exposure monitoring using low-cost wearable sensors. *Transport. Res. Part D-Transport. Environ*., **98,** 102981, Sep. 2021 (10.1016/j.trd.2021.102981).

Muraki, Y., J. F. Valdes Galicia, E. F. Ortiz, **Y. Matsubara,** S. Shibata, T. Sako, **S. Masuda**, **M. Tokumaru**, T. Koi, A. Oshima et al., Solar neutron decay protons observed in November 7, 2004. *Proceedings of Science*, **395**, 1264 Mar. 18, 2022 (10.22323/1.395.1264).

Muramiya, Y., H. Yoshida, **M. Minami**, T. Mikami, T. Kobayashi, K. Sekiuchi, and N. Katsuta, Glendonite concretion formation due to dead organism decomposition. *Sediment. Geol.*, **429**, 106075, Mar. 1, 2022 (10.1016/j.sedgeo.2021.106075).

Nagano, H., A. Kotani, **H. Mizuochi**, K. Ichii, **H. Kanamori,** and **T. Hiyama**, Contrasting 20-year trends in NDVI at two Siberian larch forests with and without multiyear waterlogging-induced disturbances. *Environ. Res. Lett.*, **17(2)**, 025003, Feb. 1, 2022 (10.1088/1748-9326/ac4884).

Nagano, H., M. Nakayama, G. Katatae, K. Fukushima, T. Yamaguchi, M. Watanabe, T. Kondo, M. Atarashi-Andoh, T. Kubota, R. Tateno, and J. Koarash, Soil microbial community responding to moderately elevated nitrogen deposition in a Japanese cool temperate forest surrounded by fertilized grasslands. *Soil Sci. Plant Nutr*., **67(5)**, 606–616, Sep. 16, 2021 (10.1080/00380768.2021.1974799).

Nagatomo, T., M. Okuno, T. Fujiki, **T. Nakamura**, **M. Mianmi**, and T. Kobayashi, Radiocarbon age and stratigraphy of the cored marshland sediments and anomalous deposition of Kikai-Akahoya tephra in the crater of Koshikidake volcano, Kirishima volcano group, SW Japan. *Fukuoka University Science Reports,* **51(2)**, 77–84, Sep. 2021.

Nakada, S., S. Kobayashi, M. Hayashi, **J. Ishizaka**, S. Akiyama, M. Fuchi, and M. Nakajima, Correction to: High-resolution surface salinity maps in coastal oceans based on geostationary ocean color images: quantitative analysis of river plume dynamics. *J. Oceanogr.*, **77(5)**, 827, Oct. 2021 (10.1007/s10872-021-00614-5).

Nakagawa, T., P. Tarasov, R. Staff, C. B. Ramsey, M. Marshall, G. Schlolaut, C. Bryant, A. Brauer, H. Lamb, T. Haraguchi et al. (**H. Kitagawa)**, The spatio-temporal structure of the Lateglacial to early Holocene transition reconstructed from the pollen record of Lake Suigetsu and its precise correlation with other key global archives: Implications for palaeoclimatology and archaeology. *Glob. Planet. Change*, **202**, 103493, Jul. 2021 (10.1016/j.gloplacha.2021.103493).

Nakamura, K., **K. Shiokawa**, **Y. Otsuka**, **A. Shinbori**, **Y. Miyoshi**, M. Connors, H. Spence, G. Reeves, H. O. Funsten, R. MacDowall et al., Simultaneous observation of two isolated proton auroras at subauroral latitudes by a highly sensitive all-sky camera and Van Allen Probes. *J. Geophys. Res. Space Phys.*, **126(5)**, e2020JA029078, May 2021 (10.1029/2020JA029078).

Nakamura, S., **Y. Miyoshi, K. Shiokawa**, Y. Omura, T. Mitani, T. Takashima, N. Higashio, I. Shinohara, **T. Hori**, **S. Imajo** et al. (**M. Shoji)**, Simultaneous observations of EMIC-induced drifting electron holes (EDEHs) in the Earth's radiation belt by the Arase satellite, Van Allen Probes, and THEMIS. *Geophys. Res. Lett*., **49(5)**, e2021GL095194, Mar. 16, 2022 (10.1029/2021GL095194).

Nakamura, T. K. M., K. A. Blasl, H. Hasegawa, **T. Umeda**, Y.-H. Liu, S. A. Peery, F. Plaschke, R. Nakamura, J. C. Holmes, J. E. Stawarz, and W. D. Nystrom, Multi-scale evolution of Kelvin–Helmholtz waves at the Earth's magnetopause during southward IMF periods. *Phys. Plasmas*, **29(1)**, 12901, Jan. 2022 (10.1063/5.0067391).

Nakata, H., K. Nozaki, Y. Oki, K. Hosokawa, K. K. Hashimoto, **T. Kikuchi**, J. Sakai, I. Tomizawa, and S. Saita, Software-defined radio-based HF doppler receiving system. *Earth Planets Space*, **73**, 209, Nov. 26, 2021 (10.1186/s40623-021-01547-5).

Namekawa, T., T. Mitani, K. Asamura, **Y. Miyoshi**, K. Hosokawa, Y. Ogawa, S. Saito, **T. Hori**, S. Sugo, O. Kawashima et al., Rocket observation of sub-relativistic electrons in the quiet dayside auroral ionosphere. *J. Geophys. Res. Space Phys*., **126(7)**, e2020JA028633, Jul. 2021 (10.1029/2020JA028633).

Nanjo, S., Y. Hozumi, K. Hosokawa, R. Kataoka, **Y. Miyoshi**, **S.-i. Oyama**, M. Ozaki, **K. Shiokawa**, and S. Kurita, Periodicities and colors of pulsating auroras: DSLR camera observations from the International Space Station. *J. Geophys. Res. Space Phys*., **126(10)**, e2021JA029564, Oct. 2021 (10.1029/2021JA029564).

Nara, F. W., T. Yokoyama, S.-i. Yamasaki, **M. Minami**, Y. Asahara, T. Watanabe, K. Yamada, N. Tsuchiya, and Y. Yasuda, Characteristics in Trace Elements Compositions of tephras (B-Tm and To-a) for Identification tools. *Geochem. J.*,

55(3), 117–133, Nov. 22, 2021 (10.2343/geochemj.2.0619).

Nishimura, Y., F. B. Sadler, R. H. Varney, R. Gilles, S. R. Zhang, A. J. Coster, **N. Nishitani**, and A. Otto, Cusp dynamics and polar cap patch formation associated with a small IMF southward turning. *J. Geophys. Res. Space Phys*., **126(5)**, e2020JA029090, May 2021 (10.1029/2020JA029090).

Nishimura, Y., S. Mrak, J. L. Semeter, A. J. Coster, P. T. Jayachandran, K. M. Groves, D. J. Knudsen, **N. Nishitani**, and J. M. Ruohoniemi, Evolution of mid-latitude density irregularities and scintillation in North America during the 7–8 September 2017 storm. *J. Geophys. Res. Space Phys*., **126(6)**, e2021JA029192, Jun. 2021 (10.1029/2021JA029192).

Nishimura, Y., J. Goldstein, C. Martinis, Q. Ma, W. Li, S. R. Zhang, A. J. Coster, S. Mrak, J. L. Semeter, **N. Nishitani** et al., Multi-scale density structures in the plasmaspheric plume during a geomagnetic storm. *J. Geophys. Res. Space Phys.*, 1**27(3)**, e2021JA030230, Mar. 2022 (10.1029/2021JA030230).

Nishitani, N., **Y. Hamaguchi**, and **T. Hori**, Development of remote HF wave receiver in the backlobe direction of the SuperDARN Hokkaido East radar: Initial observations. *Polar Sci*., **28**, 100669, Jun. 2021 (10.1016/j.polar.2021.100669).

Nosé, M., A. Matsuoka, **Y. Miyoshi**, K. Asamura, **T. Hori**, M. Teramoto, I. Shinohara, and **M. Hirahara**, Field-aligned low-energy O^+ flux enhancements in the inner magnetosphere observed by Arase, *J. Geophys. Res. Space Phys*., **126(8)**, e2021JA029168, Aug. 2021 (10.1029/2021JA029168).

Nosé, M., A. Matsuoka, **Y. Miyoshi**, K. Asamura, **T. Hori**, M. Teramoto, I. Shinohara, **M. Hirahara**, C. A. Kletzing, C. W. Smith et al., Flux enhancements of field-aligned low-energy O^+ ion (FALEO) in the inner magnetosphere: A possible source of warm plasma cloak and oxygen torus. *J. Geophys. Res. Space Phys*., **127(3)**, e2021JA030008, Mar. 2022 (10.1029/2021JA030008).

Nouri, F., H. Azizi, Y. Asahara, S. A. Whattam, M. Tsuboi, Y. O. Mohammad, **M. Minami,** and R. Anma, Coexistence of two types of Late Paleocene adakitic granitoid, Soursat complex, NW Iran. *Lithos*, **404-405**, 106438, Dec. 1, 2021 (10.1016/j.lithos.2021.106438).

Numazawa, M., Y. Ezoe, T. Ohashi, K. Ishikawa, **Y. Miyoshi,** D. Shiota, Y. Uchiyama, T. Kimura, and G. Branduardi-Raymont, Suzaku observations of Jovian diffuse har X-ray emission. *Publ. Astron.Soc. Jpn*, **73(4)**, 894–911, Jun. 9, 2021 (10.1093/pasj/psab053).

Obana, Y., Y. Miyashita, N. Maruyama, **A. Shinbori**, **M. Nosé**, **M. Shoji**, A. Kumamoto, F. Tsuchiya, S. Matsuda, A. Matsuoka et al. (**Y. Miyoshi)**, Field-aligned electron density distribution of the inner magnetosphere inferred from coordinated observations of Arase and Van Allen Probes, *J. Geophys. Res. Space Phys*., **126(10)**, e2020JA029073, Oct. 2021 (10.1029/2020JA029073).

Ohata, S., M. Koike, A. Yoshida, N. Moteki, K. Adachi, N. Oshima, H. Matsui, O. Eppers, H. Bozem, M. Zanatta, and A. B. Herber, Arctic black carbon during PAMARCMiP 2018 and previous aircraft experiments in spring. *Atmos. Chem. Phys*, **21(20)**, 15861–15881, Nov. 4, 2021 (10.5194/acp-21-15861-2021).

Ohata, S., T. Mori, Y. Kondo, S. Sharma, A. Hyvärinen, E. Andrews, P. Tunved, E. Asmi, J. Backman, H. Servomaa et al, Estimates of mass absorption cross sections of black carbon for filter-based absorption photometers in the Arctic. *Atmos. Meas. Tech*., **14(10)**, 6723–6748, Oct. 20, 2021 (10.5194/amt-14-6723-2021).

Ohigashi, T., **K. Tsuboki**, **T. Shinoda**, **H. Minda**, **M. Kyushima**, H. Yamada, and H. Iwai, Mammatus-like echo structures along the base of upper-tropospheric outflow-layer clouds of typhoons observed by cloud radar. *Geophys. Res. Lett.*, **48(19)**, e2021GL094973, Oct. 16, 2021 (10.1029/2021GL094973).

Ohtani, S., **S. Imajo**, A. Nakamizo, and J. W. Gjerloev, Globally correlated ground magnetic disturbances, during substorms. *J.*

Geophys. Res. Space Phys., **126(4)**, e2020JA028599, Apr. 2021 (10.1029/2020JA028599).

Okoh, D. I., A. B. Rabiu, **K. Shiokawa**, **Y. Otsuka**, Q. Wu, G. K. Seemala, and Z. T. Katamzi-Joseph, An experimental investigation into the possible connections between the zonal neutral wind speeds and equatorial plasma bubble drift velocities over the African equatorial region. *J. Atmos. Sol.-Terr. Phys*., **220**, 105663, Sep. 2021 (10.1016/j.jastp.2021.105663).

Oliveira, D. M., E. Zesta, P. M. Mehta, R. J. Licata, M. D. Pilinski, W. K. Tobiska, and **H. Hayakawa**, The current state and future directions of modeling thermosphere density enhancements during extreme magnetic storms. *Front. Astron. Space Sci.*, **8**, 764144, Oct. 29, 2021 (10.3389/fspas.2021.764144).

Orii, A., K. Abe, C. Bronner, Y. Hayato, M. Ikeda, S. Imaizumi, H. Ito, J. Kameda, Y. Kataoka, Y. Kato et al. (**Y. Itow**, **H. Menjo**, **T. Niwa**, **K. Sato**, **M. Tsukada**), Search for tens of MeV neutrinos associated with gamma-ray bursts in Super-Kamiokande. *Prog. Theor. Exp. Phys.*, **2021(10)**, 103F01, Oct. 2021 (10.1093/ptep/ptab081).

Otsuka, Y., L. Spogli, S. Tulasi Ram, and G. Li, Preface to the Special Issue on recent advances in the study of Equatorial Plasma Bubbles and Ionospheric Scintillation. *Earth Planet. Phys*., **5(5)**, 365–367, Sep. 2021 (10.26464/epp2021050).

Otsuka, Y., **A. Shinbori**, **T. Sori**, T. Tsugawa, M. Nishioka, and J. D. Huba, Plasma depletions lasting into daytime during the recovery phase of a geomagnetic storm in May 2017: Analysis and simulation of GPS total electron content observations. *Earth Planet. Phys*., **5(5)**, 427–434, Sep. 2021 (10.26464/epp2021046).

Oyanagi, R., A. Okamoto, M. Satish-Kumar, **M. Minami**, Y. Harigane, and K. Michibayashi, Hadal aragonite records venting of stagnant paleoseawater in the hydrated forearc mantle. *Commun. Earth Environ.*, **2**, 243, Dec. 3, 2021 (10.1038/s43247-021-00317-1).

Ozaki, M., T. Inoue, Y. Tanaka, S. Yagitani, Y. Kasahara, **K. Shiokawa**, **Y. Miyoshi**, K. Imamura, K. Hosokawa, **S.-i. Oyama** et al., Spatial evolution of wave-particle interaction region deduced from flash-type auroras and chorus-ray tracing. *J. Geophys. Res. Space Phys*., **126(7)**, e2021JA029254 , Jul. 2021 (10.1029/2021JA029254).

Pahlevan, N., A. Mangin, S. V. Balasubramanian, B. Smith, K. Alikas, K. Arai, C. Barbosa, S. Bélanger, C. Binding, M. Bresciani et al. (**J. Ishikaza)**, ACIX-Aqua: A global assessment of atmospheric correction methods for Landsat-8 and Sentinel-2 over lakes, rivers, and coastal waters. *Remote Sens. Environ*., **258**, 112366, Jun. 1, 2021 (10.1016/j.rse.2021.112366).

Panasenko, S. V., D. V. Kotov, **Y. Otsuka**, M. Yamamoto, H. Hashiguchi, P. G. Richards, V. Truhlik, O. V. Bogomaz, M. O. Shulha, T. G. Zhivolup, and I. F. Domnin, Coupled investigations of ionosphere variations over European and Japanese regions: observations, comparative analysis, and validation of models and facilities. *Prog. Earth. Planet. Sci*., **8(1)**, 45, Aug. 11, 2021 (10.1186/s40645-021-00441-8).

Park, H., A. N. Fedorov, P. Konstantinov, and **T. Hiyama**, Numerical assessments of excess ice impacts on permafrost and Greenhouse Gases in a Siberian Tundra Site under a warming climate. *Front. Earth Sci*., **9**, 704447, Sep. 22, 2021 (10.3389/feart.2021.704447).

Park, H., M. Tanoue, A. Sugimoto, K. Ichiyanagi, G. Iwahana, and **T. Hiyama**, Quantitative separation of precipitation and permafrost waters used for evapotranspiration in a boreal forest: A numerical study using tracer model. *J. Geophys. Res.-Biogeosci*., **126(12)**, e2021JG006645, Dec. 2021 (10.1029/2021JG006645).

Park, I., **Y. Miyoshi**, T. Mitani, **T. Hori**, T. Takashima, S. Kurita, I. Shinohara, S. Kasahara, S. Yokota, K. Keika et al., Characterization and calibration of high-energy electron instruments onboard the Arase satellite. *J. Geophys. Res. Space Phys.*, **126(7)**, e2021JA029110, Jul. 2021 (10.1029/2021JA029110).

Park, S. H., **K. D. Leka**, and **K. Kusano**, Magnetic helicity flux across solar active region photospheres. II. association of hemispheric sign preference with flaring cctivity during solar cycle 24. *Astrophys. J*., **911(2)**, 79, Apr. 19, 2021

(10.3847/1538-4357/abea13).

Pena, J. D., J. Semeter, Y. Nishimura, R. Varney, A. Reimer, M. Hairston, M. Zettergren, M. Hirsch, O. Verkhoglyadova, K. Hosokawa, and **K. Shiokawa,** Auroral heating of plasma patches due to high-latitude reconnection. *J. Geophys. Res. Space Phys.*, **126(12)**, e2021JA029657, Dec. 2021 (10.1029/2021JA029657).

Perwitasari, S., T. Nakamura, T. Tsugawa, M. Nishioka, Y. Tomikawa, M. K. Ejiri, M. Kogure, **Y. Otsuka**, **A. Shinbori**, H. Jin, and C. Tao, Propagation direction analyses of medium-scale traveling ionospheric disturbances observed over North America with GPS-TEC perturbation maps by three-dimensional spectral analysis method. *J. Geophys. Res. Space Phys.*, **127(1)**, e2020JA028791, Jan. 2022 (10.1029/2020JA028791).

Porowski, C., M. Bzowski, and **M. Tokumaru**, A new 3D solar wind speed and density model based on interplanetary scintillation. *Astrophys. J. Suppl. Ser.*, **259(1)**, 2, Mar. 2022 (10.3847/1538-4365/ac35d7).

Ranc, C., D. P. Bennett, R. K. Barry, N. Koshimoto, J. Skowron, Y. Hirao, I. A. Bond, T. Sumi, L. Bathe-Peters, **F. Abe** et al. **(Y. Itow**, **Y. Matsubara**, **Y. Muraki)**, New giant planet beyond the snow line for an extended MOA exoplanet microlens sample. *Mon. Not. Roy. Astron. Soc.*, **506(1)**, 1498–1506, Sep. 2021 (10.1093/mnras/stab1787).

Ren, J., X.-Z. Zhou, Q.-G. Zong, C. Yue, S. Fu, **Y. Miyoshi**, X. Zhang, K. Asamura, and I. Shinohara, The link between wedge-like and nose-like ion spectral structures in the inner magnetosphere. *Geophys. Res. Lett.*, **48(13)**, e2021GL093930, Jul. 16, 2021 (10.1029/2021GL093930).

Rota, P., Y. Hirao, V. Bozza, **F. Abe**, R. Barry, D. P. Bennett, A. Bhattacharya, I. A. Bond, M. Donachie, A. Fukui et al. (**H. Fujii**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), MOA-2006-BLG-074: Recognizing xallarap contaminants in planetary microlensing. *Astron. J.*, **162(2)**, 59, Aug. 2021 (10.3847/1538-3881/ac0155).

Safargaleev, V., T. Sergienko, K. Hosokawa, **S.-i. Oyama**, Y. Ogawa, **Y. Miyoshi**, S. Kurita, and R. Fujii, Altitude of pulsating arcs as inferred from tomographic measurements. *Earth Planets Space*, **74**, 31, Feb. 18, 2022 (10.1186/s40623-022-01592-8).

Saito, S., S. Kurita, **Y. Miyoshi**, S. Kasahara, S. Yokota, K. Keika, **T. Hori**, Y. Kasahara, S. Matsuda, **M. Shoji**, **S. Nakamura**, et al. (**S. Imajo**), Data-driven simulation of rapid flux enhancement of energetic electrons with an upper-band whistler burst. *J. Geophys. Res. Space Phys.*, **126(4),** e2020JA028979, Apr. 2021 (10.1029/2020JA0289799).

Saito, T., S. Takano, N. Harada, **T. Nakajima**, E. Schinnerer, D. Liu, A. Taniguchi, T. Izumi, Y. Watanabe, K. Bamba et al., The Kiloparsec-scale neutral atomic carbonoutflow in the nearby Type 2 Seyfert galaxy NGC 1068: Evidence for negative AGN feedback. *Astrophys. J. lett.*, **927(2)**, L32, Mar. 15, 2022 (10.3847/2041-8213/ac59ae).

Saito, Y., D. Delcourt, **M. Hirahara**, S. Barabash, N. Andre, T. Takashima, K. Asamura, S. Yokota, M. Wieser, M. N. Nishino et al. (**Y. Miyoshi**), Pre-flight calibration and near-Earth commissioning results of the Mercury Plasma Particle Experiment (MPPE) onboard MMO (Mio). *Space Sci. Rev.*, **217(5)**, 70, Jul. 20, 2021 (10.1007/s11214-021-00839-2).

Sandbertg, I., P. Jiggens, H. Evans, C. Papadimitriou, S. Aminalragia-Giamini, C. Katsavrias, A. J. Boyd, T. P. O'Brien, N. Higashio, T. Mitani et al. (**Y. Miyoshi)**, Harmonization of RBSP and Arase energetic electron measurements utilizing ESA radiation monitor data. *Space Weather*, **19(6)**, e2020SW002692, Jun. 2021 (10.1029/2020SW002692).

Santolik, O., **Y. Miyoshi**, I. Kolmašová, S. Matsuda, G. B. Hosodarsky, D. P. Hartley, Y. Kasahara, H. Kojima, A. Matsuoka, I. Shinohara et al., Inter-calibrated measurements of intense whistlers by Arase and Van Allen Probes. *J. Geophys. Res. Space Phys.*, **126(9)**, e2021JA029700, Sep. 2021 (10.1029/2021JA029700).

Sarudin, I., S. A Hamid, M. Abdullah, S. M Buhari, **K. Shiokawa**, **Y. Otsuka**, K. Hozumi, and P. Jamjareegulgarn, Influence of zonal wind velocity variation on equatorial plasma bubble occurrences over Southeast Asia. *J. Geophys. Res. Space Phys.*, **126(5)**, e2020JA028994, May 2021 (10.1029/2020JA028994).

Sarudin, I., N. S. A. Hamid, M. Abdullah, F. N. S. M. Rusli, **Y. Otsuka**, **K. Shiokawa,** C. Yatini, S. Komonjinda, and E. Somboon, Variation of zonal wind velocity in the thermosphere observed at Southeast Asian sector during quiet and active geomagnetic days. *J. Fiz. Malays*., **43(1)**, 10025–10035, ISSN:0128-0333, 2022.

Sasada, M., Y. Utsumi, R. Itoh, N. Tominaga, M. Tanaka, T. Morokuma, K. Yanagisawa, K. S. Kawabata, T. Ohgami, M Yoshida, **F. Abe** et al. (**Y. Kamei**), J-GEM optical and near-infrared follow-up of gravitational wave events during LIGO's and Virgo's third observing run. *Prog. Theor. Exp. Phys*., **2021(5)**, 05A104, May 2021 (10.1093/ptep/ptab007).

Sato, H., J. S. Kim, **Y. Otsuka**, C. M. Wrasse, E. Rodrigues de Paula, and J. Rodrigues de Souza, L-band Synthetic Aperture Radar observation of ionospheric density irregularities at equatorial plasma depletion region. *Geophys. Res. Lett*., **48(16)**, e2021GL093541, Aug. 28, 2021 (10.1029/2021GL093541).

Sato, K., **M. Minami**, and I. Musha, Specific gravity and Sr isotope ratio of andesitic volcanic blocks remained along the route of the Maebashi mudflow in central Japan. *Bull. Gunma Mus. Natu. Hist.*, **26**, 91–104, Mar. 2022.

Sato, K., **M. Minami**, H. Abe, and S. Ikeda, Ages of sector collapse occurred in the initial stage volcanic edifice of Asama volcano, central Japan: Implications from ^{14}C age dates for wood blocks from the Tsukahara mudflow deposits in the southern foot areas. *Bull. Gunma Mus. Natu. Hist.,* **26**, 105–118, Mar. 2022.

Sato, N., T. Ogawa, H. Yamagichi, A. S. Yukimatu, **N. Nishitani**, T. Kikuchi, K. Nozaki, K. Igarashi, and T. Nagatsuma, History of Japanese SuperDARN: Initiation of SENSU Syowa radars and progress of Japanese radar project. *Polar Sci.*, **28**, 100671, Jun. 2021 (10.1016/j.polar.2021.100671).

Sekaranom, A. B., E. Nurjani, S. B. Wibowo, and **H. Masunaga**, Characterizing ice-scattering homogeneity in TRMM Microwave Imagers and its influence on oceanic rain-rate estimation bias of TRMM Precipitation Radar. *Atmosphere*, **12(11)**, 1377, Nov. 2021 (10.3390/atmos12111377).

Seto, S., T. Iguchi, R. Meneghini, J. Awaka, T. Kubota, T. Masaki, and **N. Takahashi**, The precipitation rate retrieval algorithms for the GPM Dual-frequency Precipitation Radar. *J. Meteorol. Soc. Jpn*., **99(2)**, 205–237, Apr. 2021 (10.2151/jmsj.2021-011).

Sha, M. K., B. Langerock, J.-F. L. Blavier, T. Blumenstock, T. Borsdorff, M. Buschmann, A. Dehn, M. De Mazière, N. M. Deutscher, D. G. Feist et al. (**T. Nagahama**), Validation of methane and carbon monoxide from Sentinel-5 Precursor using TCCON and NDACC-IRWG stations. *Atmos. Meas. Tech.*, **14(9)**, 6249–6304, Sep. 28, 2021 (10.5194/amt-14-6249-2021).

Shestakova, A. A., A. N. Fedorov, Y. I. Torgovkin, P. Y. Konstantinov, N. F. Vasyliev, S. V. Kalinicheva, V. V. Samsonova, **T. Hiyama**, Y. Iijima, **H. Park** et al., Mapping the main characteristics of permafrost on the basis of a permafrost-landscape map of Yakutia using GIS. *Land*, **10(5)**, 462, May 2021 (10.3390/land10050462).

Shinbori, A., **Y. Otsuka**, T. Tsugawa, M. Nishioka, A. Kumamoto, F. Tsuchiya, S. Matsuda, Y. Kasahara, and A. Matsuoka, Relationship between the locations of the midlatitude trough and plasmapause using GNSS-TEC and Arase satellite observation data. *J. Geophys. Res. Space Phys*., **126(5)**, e2020JA028943, May 2021 (10.1029/2020JA028943).

Shinbori, A., **Y. Otsuka**, **T. Sori**, T. Tsugawa, and M. Nishioka, Statistical behavior of large-scale ionospheric disturbances from high latitudes to mid-latitudes during geomagnetic storms using 20-yr GNSS-TEC data: Dependence on season and storm intensity. *J. Geophys. Res. Space Phys*., **127(1)**, e2021JA029687, Jan. 2022 (10.1029/2021JA029687).

Shiokawa, K., S. Dasso, R. Miteva, D. Pallamraju, and S. Zhang, Preface of the special issue: "Variability of the Sun and Its Terrestrial Impact (VarSITI) Completion Symposium 2019 and the SCOSTEP 14th Quadrennial Solar-Terrestrial Physics Symposium (STP14)". *J. Atmos. Sol.-Terr. Phys*., **215**, 105593, Apr. 2021 (10.1016/j.jastp.2021.105593).

Shoda, M., **K. Iwai**, and D. Shiota, Testing the Alfvén-wave model of the solar wind with interplanetary scintillation. *Astrophys.*

J., in press (10.3847/1538-4357/ac581e).

Shoji, M., **Y. Miyoshi**, **L. M. Kistler**, K. Asamura, A. Matsuoka, Y. Kasaba, S. Matsuda, Y. Kasahara, and I. Shinohara, Discovery of proton hill in the phase space during interactions between ions and electromagnetic ion cyclotron waves. *Sci Rep*., **11(1)**, 13480, Jun. 29, 2021 (10.1038/s41598-021-92541-0).

Singh, J., N. Singh, N. Ojha, A. K. Srivastava, D. S. Bisht, K. Rajeev, N. V. P. Kiran Kumar, R. S. Singh, V. Panwar, S. K. Dhaka et al. (**Y. Matsumi)**, Genesis of a severe dust storm over the Indian subcontinent: Dynamics and impacts. *Earth Space Sci*., **9(2)**, e2021EA001702, Feb. 2022 (10.1029/2021EA001702).

Sivakandan, M., S. Mondal, S. Sarkhel, D. Chakrabarty, M. V. Sunil Krishna, A. K. Upadhayaya, **A. Shinbori**, **T. Sori**, S. Kannaujiya, and P. K. Champati Ray, Evidence for the *in-situ* generation of plasma depletion structures over the transition region of geomagnetic low-mid latitude. *J. Geophys. Res. Space Phys*., **126(9)**, e2020JA028837, Sep. 2021 (10.1029/2020JA028837)

Song, Q., and **H. Aiki**, Horizontal energy flux of wind-driven intraseasonal waves in the tropical Atlantic by a unified diagnosis. *J. Phys. Oceanogr*., **51(9)**, 3037–3050, Sep. 1, 2021 (10.1175/JPO-D-20-0262.1).

Sori, T., **A. Shinbori**, **Y. Otsuka**, T. Tsugawa, and M. Nishioka, The occurrence feature of plasma bubbles in the equatorial to midlatitude ionosphere during geomagnetic storms using long-term GNSS-TEC data. *J. Geophys. Res. Space Phys*., **126(5)**, e2020JA029010, May 2021 (10.1029/2020JA029010).

Stober, G., A. Kozlovsky, A. Liu, Z. Qiao, M. Tsutsumi, C. Hall, **S. Nozawa**, M. Lester, E. Belova, J. Kero et al., Atmospheric tomography using the Nordic Meteor Radar Cluster and Chilean Observation Network De Meteor Radars: network details and 3D-Var retrieval. *Atmos. Meas. Tech*., **14(10)**, 6509–6532, Oct. 8, 2021 (10.5194/amt-14-6509-2021).

Sugimoto, S., K. Ueno, **H. Fujinami**, T. Nasuno, T. Sato, and H. G. Takahashi, Cloud-resolving-model simulations of nocturnal precipitation over theHimalayan slopes and foothills. *J. Hydrometeorol*., **22(12)**, 3171–3188, Dec. 1, 2021 (10.1175/JHM-D-21-0103.1).

Sukigara, C., **Y. Mino**, A. Yasuda, A. Morimoto, A. Buranapratheprat, and **J. Ishizaka**, Measurement of oxygen concentrations and oxygen consumption rates using an optical oxygen sensor, and its application in hypoxia-related research in highly eutrophic coastal regions. *Cont. Shelf Res*., **229**, 104551, Nov. 1, 2021 (10.1016/j.csr.2021.104551).

Suzuki, K., H. Park, O. Makarieva, **H. Kanamori**, M. Hori, K. Matsuo, S. Matsumura, N. Nesterova, and **T. Hiyama**, Effect of permafrost thawing on discharge of the Kolyma River, northeastern Siberia. *Remote Sens.*, **13(21)**, 4389, Oct. 31, 2021 (10.3390/rs13214389).

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*., in press (10.3847/1538-4365/ac4607).

Szabo-Roberts, M., Y. Y. Shprits, H. J. Allison, R. Vasile, A. G. Smirnov, N. A. Aseev, A. Y. Drozdov, **Y. Miyoshi**, S. G. Claudpierre, S. Kasahara et al. (**T. Hori**, **S. Imajo**), Preliminary statistical comparisons of spin-averaged electron data from Arase and Van Allen Probes instruments. *J. Geophys. Res. Space Phys*., **126(7)**, e2020JA028929, Jul. 2021 (10.1029/2020JA028929).

Takada, M., K. Seki, Y. Ogawa, K. Keika, S. Kasahara, S. Yokota, T. Hori, K. Asamura, **Y. Miyoshi**, and I. Shinohara, Low-altitude ion upflow observed by EISCAT and its effects on supply of molecular ions in the ring current detected by Arase (ERG), *J. Geophys. Res. Space Phys*., **126(5)**, e2020JA028951, May 2021 (10.1029/2020JA028951).

Takahashi, H., H. Handa, and **M. Minami**, A simple CO^2 extraction method for radiocarbon analyses of dissolved inorganic carbon in water samples without a carrier gas. *Radiocarbon*, **63(4)**, 1339–1353, Aug. 2021 (10.1017/RDC.2021.48).

Takahashi, H., P. Essien, C. A. O. B. Figueiredo, C. M. Wrasse, D. Barros, M. A. Abdu, **Y. Otsuka**, **K. Shiokawa**, and G. Z. Li, Multi-instrument study of longitudinal wave structures for plasma bubble seeding in the equatorial ionosphere. *Earth Planet. Phys*., **5(5)**, 368–377, Sep. 2021 (10.26464/epp2021047).

Takahashi, H. G., and **H. Fujinami**, Recent decadal enhancement of Meiyu–Baiu heavy rainfall over East Asia. *Sci Rep.,* **11(1)**, 13665, Jul. 7, 2021 (10.1038/s41598-021-93006-0).

Takahashi, N., K. Seki, M.-C. Fok, Y. Zheng, **Y. Miyoshi**, S. Kasahara, K. Keika, D. Hartley, Y. Kasahara, Y. Kasaba et al. (**T. Hori**, **M. Shoji**, **S. Nakamura**), Relative contribution of ULF waves and whistler-mode chorus to the radiation belt variation during the May 2017 storm. *J. Geophys. Res. Space Phys.*, **126(11)**, e2020JA028972, Nov. 2021 (10.1029/2020JA028972).

Takeda, M., H. Nakajima, I. Murata, **T. Nagahama**, I. Morino, G. C. Toon, R. F. Weiss, J. Muhle, P. B. Krummel, P. J. Fraser, and H.-J. Wang, First ground-based Fourier transform infrared (FTIR) spectrometer observations of HFC-23 at Rikubetsu, Japan, and Syowa Station, Antarctica. *Atmos. Meas. Tech*., **14(9)**, 5955–5976, Sep. 3, 2021 (10.5194/amt-14-5955-2021).

Takikawa, T., A. Morimoto, **M. Kyushima**, K. Ichikawa, and K. Yufu, Fortnightly variation of the Tsushima Warm Current on the continental shelf in the southwestern Japan Sea. *J. Geophys. Res.-Oceans*, **126(11)**, e2020JC017141, Nov. 2021 (10.1029/2020JC017141).

Tan, C.-M., K. L. Klein, Y.-H. Yan, **S. Masuda**, B.-L. Tan, J. Huang, and G.-W. Yuan, Energy and spectral analysis of confined solar flares from radio and X-ray observations. *Res. Astron. Astrophys*., **21(11)**, 274, Dec. 2021 (10.1088/1674-4527/21/11/274).

Tanaka, T., Y. Ebihara, M. Watanabe, M. Den, S. Fujita, **T. Kikuchi**, K. K. Hashimoto, and R. Kataoka, Roles of the M-I coupling and plasma sheet dissipation on the growth-phase thinning and subsequent transition to the onset. *J. Geophys. Res. Space Phys.*, **126(12)**, e2021JA029925, Dec. 2021 (10.1029/2021JA029925).

Tanaka, T., Y. Ebihara, M. Watanabe, M. Den, S. Fujita, **T. Kikuchi**, K. K. Hashimoto, **N. Nishitani**, and R. Kataoka, Development of the substorm as a manifestation of convection transient. *J. Geophys. Res. Space Phys.*, **126(10)**, e2020JA028942, Oct. 2021 (10.1029/2020JA028942).

Tarasov, E. P., **C. Leipe**, and M. Wagner, Environments during the spread of anatomically modern humans across Northern Asia 50–10 cal kyr BP: What do we know and what would we like to know? *Quat. Int.*, **596**, 155–170, Sep. 20, 2021 (10.1016/j.quaint.2020.10.030)

Teramoto, M., **Y. Miyoshi**, A. Matsuoka, Y. Kasahara, A. Kumamoto, F. Tsuchiya, **M. Nosé**, S. Imajo, **M. Shoji**, **S. Nakamura**, **M. Kitahara**, and I. Shnohara, Off-equatorial Pi2 pulsations inside and outside the plasmapause observed by the Arase satellite. *J. Geophys. Res. Space Phys*., **127(1),** e2021JA029677, Jan. 2022 (10.1029/2021JA029677).

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*., in press (10.1029/2022JA030271).

Tokumaru, M., **K. Fujiki**, M. Kojima, and **K. Iwai**, Global distribution of the solar wind speed reconstructed from improved tomographic analaysis of interplanetary scintillation observations between 1985 and 2019. *Astron. J.*, **922(1)**, 73, Nov. 2021 (10.3847/1538-4357/ac1862).

Tokumaru, M., **R. Maeda**, **K. Tawara**, K. Takefuji, and T. Terasawa, Coronal density measurementsusing giant radio pulses of the Crab pulsar at the cycle 24/25 minimum. *Sol. Phys*., **297**, 10, Jan. 17, 2022 (10.1007/s11207-021-01939-6).

Toyoda, T., H. Nakano, **H. Aiki**, T. Ogata, **Y. Fukutomi**, Y. Kanno, L. Urakawa, K. Sakamoto, G. Yamanaka, and M. Nagura, Energy flow diagnosis of ENSO from an ocean reanalysis. *J. Clim*., **34(10)**, 4023–4042, May 1, 2021

(10.1175/JCLI-D-20-0704.1).

Tsujino, S., H.-C. Kuo, H. Yu, B.-F. Chen, and **K. Tsuboki**, Effects of mid-level moisture and environmental flow on the development of afternoon thunderstorms in Taipei. *Terr. Atmos. Ocean. Sci.*, **32(4)**, 497–518, Aug. 2021 (10.3319/TAO.2021.11.17.01).

Tsujino, S., T. Horinouchi, T. Tsukada, H.-C. Kuo, H. Yamada, and **K. Tsuboki**, Inner-core wind field in a concentric eyewall replacement of Typhoon Trami (2018): A quantitative analysis based on the Himawari-8 satellite. *J. Geophys. Res. Atmos*., **126(7)**, e2020JD034434, Apr. 16, 2021 (10.1029/2020JD034434).

Uemine, A., T. Watanabe, F. Wang, and **M. Yamane**, Lithic production strategy of early upper Paleolithic in Shuilian Cave, North China . *Quat. Int*., **610**, 108–121, Feb. 10, 2022 (10.1016/j.quaint.2021.07.022)

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*., in press (10.3390/rs14081810).

van der Zwaard, R., M. Bergmann, J. J. Zender, **R. Kariyappa**, G. Giono, and L. Dame, Segmentation of coronal features to understand the solar EUV and UV irradiance variability III. Inclusion and analysis of bright points. *Sol. Phys.*, **296(9)**, 138, Sep. 2021(10.1007/s11207-021-01863-9) .

Verronen, P. T., A. Kero, N. Partamies, M. E. Szeląg, **S.-I. Oyama**, **Y. Miyoshi**, and E. Turunen, Simulated seasonal impact on middle atmospheric ozone from high-energy electron precipitation related to pulsating aurorae. *Ann. Geophysicae*, **39(5)**, 883–897, Oct. 8, 2021 (10.5194/angeo-39-883-2021).

Volwerk, M., B. Sánchez-Cano, D. Heyner, S. Aizawa, N. André, A. Varsani, J. Mieth, S. Orrsini, W. Baumjohann, D. Fischer, et al. (**K. Iwai**, **Y. Miyoshi**), Venus's induced magnetosphere during active solar wind conditions at BepiColombo's Venus 1 flyby. *Ann. Geophysicae*, **39(5)**, 811–831, Sep. 17, 2021 (10.5194/angeo-39-811-2021).

Wada, Y., T. Enoto, M. Kubo, K. Nakazawa, **T. Shinoda**, D. Yonetoku, T. Sawano, T. Yuasa, T. Ushio, Y. Sarto et al., Meteorological aspects of gamma-ray glows in winter thunderstorms. *Geophys. Res. Lett.*, **48(7)**, e2020GL091910, Apr. 16, 2021 (10.1029/2020GL091910).

Wagner, M., M. Hallgren-Brekenkamp, D. Xu, Xi. Kang, P. Wertmann, C. James, I. Elkina, D. Hosner, **C. Leipe**, and P. E. Tarasov, The invention of twill tapestry points to Central Asia: Archaeological record of multiple textile techniques used to make the woollen outfit of a ca. 3000-year-old horse rider from Turfan, China. *Archaeological Research in Asia*, **29**, 100344, Mar. 2022 (10.1016/j.ara.2021.100344).

Wang, C.-C., M.-S. Li, C.-S. Chang, P.-Y. Chuang, S.-H. Chen, and **K. Tsuboki**, Ensemble-based sensitivity analysis and predictability of an extreme rainfall event over northern Taiwan in the Mei-yu season: The 2 June 2017 case. *Atmos. Res*., **259**, 105684, Sep. 2021 (10.1016/j.atmosres.2021.105684).

Wang, C.-C., T.-C. Lin, **K. Tsuboki**, Y.-M. Tsai, and D.-I. Lee, A modeling study of rainbands upstream from western Japan during the approach of typhoon tokage (2004). *Atmosphere*, **12(10)**, 1242, Sep. 23, 2021 (10.3390/atmos12101242).

Wang, C.-C., C.-S. Chang Y.-W. Wang, C.-C. Huang, S.-C. Wang, Y.-S. Chen, **K. Tsuboki**, S.-Y. Huang, S.-H. Chen, P.-Y. Chuang, and H. Chiu, Evaluating quantitative precipitation forecasts using the 2.5 km CReSS model for typhoons in Taiwan: An update through the 2015 season. *Atmosphere*, **12(11)**, 1501, Nov. 14, 2021 (10.3390/atmos12111501).

Wang, C.-C., P.-Y. Chuang, C.-S. Chang, **K. Tsuboki**, S.-Y. Huang, and G.-C. Leu, Evaluation of Mei-yu heavy-rainfall quantitative precipitation forecasts in Taiwan by a cloud-resolving model for three seasons of 2012–2014. *Nat. Hazards Earth Syst. Sci.*, **22(1)**, 23–40, Jan. 5, 2022 (10.5194/nhess-22-23-2022).

Wang, Y. K., T. Yokoyama, and **H. Iijima**, Fast magnetic wave could heat the solar low-beta chromosphere. *Astrophys. J. lett.*,

916(2), L10, Aug. 1, 2021 (10.3847/2041-8213/ac10c7).

Wang, W., J. J. Zhang, C. Wang, **N. Nishitani**, J. Y. Yan, A. L. Lan, X. Deng, and H. B. Qiu, Statistical characteristics of mid-latitude ionospheric irregularities at geomagnetic quiet time: Observations from the Jiamusi and Hokkaido East SuperDARN HF radars. *J. Geophys. Res. Space Phys*., **127(1)**, e2021JA029502, Jan. 2022 (10.1029/2021JA029502).

Watanabe, K., H. Jin, S. Nishimoto, **S. Imada**, **T. Kawai**, T. Kawate, **Y. Otsuka**, **A. Shinbori**, T. Tsugawa, and M. Nishioka, Model-based reproduction and validation of the total spectra of a solar flare and their impact on the global environment at the X9.3 event of September 6, 2017. *Earth Planets Space*, **73**, 96, Apr. 20, 2021 (10.1186/s40623-021-01376-6).

Watari, S., **S. Nakamura**, and Y. Ebihara, Measurement of geomagnetically induced current (GIC) around Tokyo, Japan. *Earth Planets Space*, **73**, 102, May 27, 2021 (10.1186/s40623-021-01422-3).

Xu, Q., S. Wang, C. Sukigara, J. I. Goes, H. R. Gomes, T. Matsuno, Y. Zhu, Y. Xu, J. Luang-on, Y. Watanabe, S. Yoo, and **J. Ishizaka**, High-resolution vertical observations of phytoplankton groups derived from an *in-situ* Fluorometer in the East China Sea and Tsushima Strait. *Front. Mar. Sci*., **8**, 756180, Jan. 4, 2022 (10.3389/fmars.2021.756180).

Yadav, S., **K. Shiokawa**, **S. Oyama**, **Y. Inaba**, N. Takahashi, K. Seki, K. Keika, T.-F. Chang, S. W. Y. Tam, B.-J. Wang et al. (**M. Shoji**, **C.-W. Jun**, **S. Imajo**, **Y. Miyoshi**), Study of an equatorward detachment of auroral arc from the oval using ground-space observations and the BATS-R-US–CIMI model. *J. Geophys. Res. Space Phys*., **126(12)**, e2020JA029080, Dec. 2021 (10.1029/2020JA029080).

Yahnin, A. G., T. A. Popova, A. G. Demekhov, A. A. Lubchich, A. Matsuoka, K. Asamura, **Y. Miyoshi**, S. Yokota, S. Kasahara, K. Keika, **T. Hori** et al. (**M. Shoji**, **S. Nakamura**), Evening side EMIC waves and related proton precipitation induced zby a substorm. *J. Geophys. Res. Space Phys*., **126(7)**, e2020JA029091, Jul. 2021 (10.1029/2020JA029091).

Yamada, H., K. Ito, **K. Tsuboki**, **T. Shinoda**, T. Ohigashi, M. Yamaguchi, T. Nakazawa, N. Nagahama, and K. Shimizu, The double warm-core structure of Typhoon Lan (2017) as observed through the first Japanese eyewall-penetrating aircraft reconnaissance. *J. Meteorol. Soc. Jpn*., **99(5)**, 1297–1327, Oct. 2021 (10.2151/jmsj.2021-063).

Yamamoto, K., K. Seki, A. Matsuoka, S. Imajo, M. Teramoto, **M. Kitahara**, Y. Kasahara, A. Kumamoto, F. Tsuchiya, **M. Shoji**, **S. Nakamura**, **Y. Miyoshi**, and I. Shinohara, A Statistical study of the solar wind dependence of multi-harmonic toroidal ULF waves observed by the Arase satellite. *J. Geophys. Res. Space Phys*., **127(1)**, e2021JA029840, Jan. 2022 (10.1029/2021JA029840).

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*., in press (10.1007/s10686-022-09846-9).

Yamazaki, R., S. Matsukiyo, T. Morita, S. J. Tanaka, **T. Umeda**, K. Aihara, M. Edamoto, S. Egashira, R. Hatsuyama, T. Higuchi et al., High-power laser experiment forming a supercritical collisionless shock in a magnetized uniform plasma at rest. *Phys. Rev. E*, **105(2)**, 025203, Feb. 11, 2022 (10.1103/PhysRevE.105.025203).

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*., in press (10.1016/j.jenvman.2022.114784).

Yee, J. C., W. Zang, A. Udalski, Y.-H. Ryu, J. Green, S. Hennerley, A. Marmont, T. Sumi, S. Mao, L. Authors et al. (**F. Abe**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), OGLE-2019-BLG-0960 Lb: the smallest microlensing planet. *Astron. J.*, **162(5)**, 180, Nov. 2021 (10.3847/1538-3881/ac1582).

Yiğit, E., H. Lühr, A. S. Medvedev, W. Ward, A, G. Elias, J. Luis Chau, **Y. Miyoshi**, S. Jain, and L. Liu, Editorial: Coupling Processes in Terrestrial and Planetary Atmospheres. *Front. Astron. Space Sci*., **9**, 857766, Feb. 23, 2022 (10.3389/fspas.2022.857766).

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

Zang, W. C., C. Han, I. Kondo, J. C. Yee, C.-U. Lee, A. Gould, S. Mao, L. de Almeida, Y. Shvartzvald, X. Zhang et al. (**F. Abe**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), An Earth-mass planet in a time of COVID-19: KMT-2020-BLG-0414Lb. *Res. Astron. Astrophys.*, **21(9)**, 239, Nov. 2021 (10.1088/1674-4527/21/9/239).

Zang, W., K.-H. Hwang, A. Udalski, T. Wang, W. Zhu, T. Sumi, J. C. Yee, A. Gould, S. Mao, X. Zhangn et al. (**F. Abe**, **Y. Itow**, **Y. Matsubara**, **Y. Muraki**), Systematic KMTNet plarnetary anomaly search. I. OGLE-2019-BLG-1053Lb, a buried terrestrial planet. *Astron. J.*, **162(4)**, 163, Oct. 2021 (10.3847/1538-3881/ac12d4).

Zhang, S., S. Liu, W. Li, Y. He, Q. Yang, F. Xiao, A. Kumamoto, **Y. Miyoshi**, Y. Nakamura, F. Tsuchiya et al., A concise empirical formula for the field-aligned distribution of auroral kilometeric radiation based on Arase satellite and Van Allen Probes. *Geophys. Res. Lett*., **48(8)**, e2021GL092805, Apr. 28, 2021 (10.1029/2021GL092805).

Zhang, X. J., A. Artemyev, V. Angelopoulos, E. Tsai, C. Wilkins, S. Kasahara, D. Mourenas, S. Yokota, K. Keika, **T. Hori**, **Y. Miyoshi** et al., Superfast precipitation of energetic electrons in the radiation belts of the Earth. *Nat. Commun.*, **13**, 1611, Mar. 25, 2022 (10.1038/s41467-022-29291-8).

Zhou, R., Q. Chen, J. Chen, L. Ren, Y. Deng, P. Vodička, D. K. Deshmukh, K. Kawamura, P. Fu, and **M. Mochida**, Distinctive sources govern organic aerosol fractions with different degrees of oxygenation in the urban atmosphere. *Environ. Sci. Technol*, **55(8)**, 4494–4503, Apr. 20, 2021 (10.1021/acs.est.0c08604).

Zhu, L., P. Ciais, A. Bastos, A. P. Ballantyne, F. Chevallier, T. Gasser, **M. Kondo**, J. Pongratz, C. Rödenbeck, and W. Li, Decadal variability in land carbon sink efficiency. *Carbon Balanc. Manag.*, **16**, 15, May 10, 2021 (10.1186/s13021-021-00178-3).

Books (April 2021–March 2022)

Ishizaka, J., Phytoplankton, 224–243, in *Oceanography of the Yellow Sea and East China Sea. PICES Sci. Rep. No. 62*, edited by **J. Ishizaka**, G. Kim, J. H. Lee, S. M. Liu, F. Yu and J. Zhang, 311pp, North Pacific Marine Science Organization, Sidney, BC, Canada, 298pp, Sep. 2021 (ISBN978-1-927797-45-7).

Kondo, M., R. Birdsey, T. A. M. Pugh, R. Lauerwald, P. A. Raymond, S. Niu, and K. Naudt, 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. Canadell, D. Hayes, and R. Thompson, 450pp, Elsevier, Amsterdam, Netherland, in press (ISBN978-0-12-8124952-2).

Two more books were published in Japanese.

Publication of Proceedings (April 2021–March 2022)

Title	Date of Publication
PSTEP Open Textbook	Jul. 2021
iLEAPS-Japan2021 Workshop: Book of Abstracts	Dec. 2021
The Nagoya University Bulletin of Chronological Research Vol. 6	Mar. 31, 2022

Conference Presentations (April 2021–March 2022)

■ International Conferences

*Session Conveners

Title	Venue	Date	Orga-nizers	Number of Presentations			
				Staffs and PDs	Students	Total	Invited
EGU General Assembly 2021	Online	Apr. 19–30, 2021	0	2	2	4	0
14th International Conference on Mesoscale Convective System and High-Impact Weather in East Asia (ICMCS-XIV)	Hybrid Conference/ Nanjing, China	Apr. 28–30, 2021	0	3	0	3	2
Online Radio Heliophysics Catch-up	Online	May 10–13, 2021	0	1	0	1	0
SuperDARN 2021 Workshop	Online	May 24–28, 2021	0	1	2	3	0
4th PACES Open Science Meeting	Online	May 26–28, 2021	0	1	0	1	0
Japan Geoscience Union Meeting 2021	Online	May 30–Jun. 12, 2021	5*	52	31	83	4
The 28th International Conference on Weak Interactions and Neutrinos	Online	Jun. 7–12, 2021	1	0	0	0	0
International Workshop for Mid-latitude Air-Sea Interaction	Online	Jun. 8–14, 2021	0	1	0	1	0
Japan Open Science Summit 2021	Online	Jun. 14–18, 2021	0	1	0	1	0
The 16th Workshop on Antarctic Meteorology and Climate (WAMC)	Online	Jun. 21–23, 2021	0	0	1	1	0
3rd International Radiocarbon in the Environment Conference	Online	Jul. 5–9, 2021	1*	1	0	1	1
2021 RHIC/AGS Annual Users' Meeting	Online	Jul. 8–11, 2021	0	1	0	1	0
37th International Cosmic Ray Conference	Online	Jul. 12–23, 2021	0	3	0	3	0
18th Annual Meeting (AOGS2021)	Online	Aug. 1–6, 2021	2*	11	5	16	3
International Conference on Clouds and Precipitation 2021	Online	Aug. 2–6, 2021	0	1	0	1	0
ICEAA - IEEE APWC 2021	Hybrid Conference/ Honolulu, Hawaii	Aug. 9–13, 2021	0	1	0	1	1
IAGA-IASPEI 2021	Online	Aug. 21–27, 2021	8*	7	0	7	1
64th session of the of the Committee on the Peaceful Uses of Outer Space, United Nations	Online	Aug. 25–Sep. 3, 2021	0	1	0	1	0
URSI GASS 2021	Hybrid Conference/ Rome, Italy	Aug. 28–Sep. 3, 2021	0	3	0	3	1
The virtual DPG-Tagung (DPG Meeting) of the Matter and Cosmos Section (SMuK)	Online	Aug. 30–Sep. 3, 2021	0	1	0	1	1
The Fifth Convection-Permitting Modeling Workshop 2021 (CPM2021)	Online	Sep. 7–10, and Sep. 14, 2021	0	1	0	1	0
16th IGAC Scientific Conference	Online	Sep. 12–20, 2021	0	0	1	1	0
International Colloquium on Equatorial and Low-Latitude Ionosphere	Hybrid Conference/ Iwo, Nigeria	Sep. 13–18, 2021	1	3	0	3	3
LAPAN/BRIN - Kyoto University International Symposium for Equatorial Atmosphere /The 6th Asia Research Node Symposium on Humanosphere Science	Online	Sep. 20–22, 2021	0	2	0	2	0
Workshop on Laboratory Facilities for Cloud Research	Online	Sep. 24, 2021	0	1	0	1	1
General Incorporated Association Division of Plasma Physics Association of Asia Pacific Physical Societies (APPS-DPP) 5th Asia Pacific Conference on Plasma Physics	Online	Sep. 29–Oct. 1, 2021	0	1	0	1	1
Low-x 2021	Hybrid Conference/ Elba, Italy	Sep. 26–Oct. 1, 2021	0	1	0	1	0

Title	Venue	Date	Orga-nizers	Number of Presentations			
				Staffs and PDs	Students	Total	Invited
International Workshop on “Climate change impact on the natural ecosystems in the Arctic” within the framework of the III Northern Forum on Sustainable Development	Online	Sep. 27–30, 2021	0	1	0	1	0
12th International Conference: Solar-Terrestrial Relations and Physics of Earthquake Precursors	Hybrid Conference/ Kamchatka, Russia	Sep. 27–Oct. 1, 2021	1	1	0	1	0
International Heliophysics Data Environment Alliance	Online	Sep. 27–Oct. 1, 2021	1	2	0	2	1
International Space Science Institute SEESUP 2021	Hybrid Conference/ Bern, Switzerland	Sep. 27–Oct. 1, 2021	1	2	0	2	0
9th PRL Ka Amrut Vyakhyaan	Online	Sep. 29, 2021	0	1	0	1	1
Quadrennial Ozone Symposium (QOS 2021)	Online	Oct. 3–9, 2021	0	2	0	2	0
NASA PMM Science Team Meeting	Online	Oct. 18–22, 2021	0	1	0	1	0
SciDataCon21	Online	Sep. 18–28, 2021	0	1	0	1	1
First International Conference on Environmental Challenges: Climate change, disaster, and urban environment	Hybrid Conference/ Ulaanbaatar, Mongolia	Oct. 25, 2021	0	1	0	1	1
AOS Colloquium Series	Hybrid Conference/ Madison, WI, USA	Oct. 25, 2021	0	1	0	1	1
3rd Forward Physics Facility Meeting	Online	Oct. 25–26, 2021	0	1	0	1	1
17th European Space Weather Week	Hybrid Conference/ Glasgow, UK	Oct. 25–29, 2021	0	1	0	1	0
Asia-Oceania Group on Earth Observations (AOGEO) Task Group 3 Meeting：Carbon and Greenhouse Gases	Online	Oct. 27, 2021	0	1	0	1	0
Tropical Cyclone Trami Mini Workshop	Online	Oct. 29, 2021	0	1	0	1	0
The 2nd International Symposium on Space Science (ISSS 2021)	Online	Nov. 15, 2021	0	1	0	1	1
Workshop of Water Isotopes: from Weather to Climate	Online	Nov. 15–17, 2021	0	1	0	1	0
The 12th Symposium on Polar Science	Online	Nov. 15–18, 2021	0	3	4	7	0
The 15th International Conference on Accelerator Mass Spectrometry (AMS-15)	Online	Nov. 15–19, 2021	0	1	1	2	0
Particle Acceleration in Solar Flares and the Plasma Universe - Deciphering its features under magnetic reconnection	Online	Nov. 15–19, 2021	0	1	0	1	1
GEO Week 2021/ GEO-GEE Programme Side Event	Online	Nov. 22–26, 2021	0	1	0	1	0
7th International Conference on Space Science and Communication (IconSpace2021)	Online	Nov. 23–24, 2021	1	0	0	0	0
ISEE/ISAS Symposium on Inner Heliosphere Studies 2021	Online	Nov. 29–30, 2021	0	2	0	2	1
Linking the science of large interferometers in the 2030s	Online	Nov. 30–Dec. 1, 2021	0	1	0	1	1
AGU Fall Meeting 2021	Hybrid Conference/ Los Angeles, CA, USA	Dec. 13–17, 2021	0	14	9	23	1
GEE Training & The 9th Asian/18th Korea-Jaoan Workshop on Ocean Color 2021	Online	Dec. 20–22, 2021	1	1	1	2	0
Sodankyla Geophysical Observatory Days	Online	Jan. 10–14, 2022	0	1	0	1	0
1st Japan-Russia Bilateral Project Meeting (ISEE-IKFIA)	Online	Jan. 13, 2022	0	1	0	1	0
International Conference on Frontiers of Physics-2022	Hybrid Conference/ Katmandu, Nepal	Jan. 22–24, 2022	0	1	0	1	1
The 16th Vienna Conference on Instrumentation	Online	Feb. 21–25, 2022	1	0	0	0	0

Title	Venue	Date	Orga-nizers	Number of Presentations			
				Staffs and PDs	Students	Total	Invited
59th session of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space, United Nations	Online	Feb. 21–25, 2022	0	1	0	1	0
15th Quadrennial Solar-Terrestrial Physics symposium (STP-15)	Online	Feb. 21–25, 2022	1	13	11	24	1
ISEE Symposium International Conference on Heavy Rainfall and Tropical Cyclone in East Asia	Online	Mar. 1–2, 2022	1	2	0	2	0
International Symposium on "Pan-Arctic Water-Carbon Cycles and Terrestrial Changes in the Arctic: For resilient Arctic Communities"	Online	Mar. 8–11, 2022	1	4	0	4	0
Synergies at new frontiers at gamma-rays, neutrinos and gravitational waves	Online	Mar. 24–25, 2022	1*	1	0	1	1
Total			11 17*	168	68	236	33

■ Domestic Conferences

* Session Conveners

Number of Conferences	Organizers	Number of Presentations			
		Staffs and PDs	Students	Total	Invited
82	29 10*	164	92	256	15

■ Lectures for Researchers

Date	Title	Number of Paticipants
May 21, 2021 Jun. 8, 2021 Sep. 23, 2021 Nov. 30, 2021 Feb 10, 2022 JMar. 11, 2022	SCOSTEP/PRESTO Online Seminar (7st–12th)	114 159 121 83 155 48
Apr. 29, 2021 May 31, 2021 Jun. 28, 2021 Aug.19, 2021 Sep. 14, 2021 Oct. 21, 2021 Nov. 16, 2021 Jun. 27, 2022 Mar. 31, 2022	SCOSTEP Online Capacity Building Lecture (4th–12th)	52 108 114 49 90 40 35 53 39

Awards

■ Staffs and PDs

Award Winners	Date	Awards	Title
Satoko Nakamura	Apr. 23, 2021	Sasakawa Scientific Research Encouragement Prize 2020	A Preliminary Risk Assessment of Geomagnetically Induced Currents on Japanese Power Grids in Severe Space Storms
Nozomu Nishitani Tomoaki Hori	May 17, 2021	PEPS Most Cited Paper Award 2021	Nishitani, N., J. M. Ruohoniemi, M. Lester, J. B. H. Baker, A. V. Koustov, S. G. Shepherd, G. Chisham, T. Hori et al., Review of the accomplishments of mid-latitude Super Dual Auroral Radar Network (SuperDARN) HF radars. Prog Earth Planet Sci, 6, 27, 2019 (10.1186/s40645-019-0270-5)
Masayo Minami	Sep. 9, 2021	Top Leaders Awards for Female Faculty Members, Nagoya University	Commendation of particularly outstanding female researcher (who not only excels in research achievements and competence but is also expected to play an active role as a university director or manager in the near future)
Hironobu Takahashi (F.A. Shinta Seto)	Dec. 1, 2021	JMSJ Award	Seto, S., T. Iguchi, R. Meneghini, J. Awaka, T. Kubota, T. Masaki, and N. Takahashi: The Precipitation rate retrieval algorithms for the GPM Dual-frequency Precipitation Radar. J. *Meteor. Soc. Japan*, 99(2), 205–237, 2021 （10.2151/jmsj.2021-011）
Masataka Murakami	Jan. 5, 2022	STAC-Level Awards for 2022/ STAC Distinguished Scientific/ Technological Accomplishment Award	For leading the field of weather modification research by inventing novel approaches for lab and field work and numerical modeling

■ Students

Award Winners	Date	Awards	Title
Yoshiki Ito	Jun. 3, 2021	Society of Geomagnetism and Earth, Planetary and Space Sciences (SGEPSS) Student Presentation Award (Aurora Medal)	Computer simulations of precipitating electrons through chorus-wave particle interactions
Toshiki Kawai	Jun. 7, 2021	JpGU Meeting 2021 Outstanding Student Presentation Award	Contribution of small-scale flares to coronal heating estimated by a spectroscopic observation of Hinode
Ken Ohashi	Oct. 9, 2021	Student Presentation Award of the Physical Society of Japan	Analysis of forward neutrons with the LHCf-ATLAS detectors (III)