

Mizuo Kajino
Curriculum Vita

Professional Address

Senior Researcher
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Birthdate

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Education

Dr. Sci. Department of Geophysics, Graduate School of Science, Kyoto University (2005)
M.S. Department of Geophysics, Graduate School of Science, Kyoto University (2002)
B.S. Department of Mathematics, Faculty of Science, Kyoto University (2000)

Research Experience

04/2014 –present Senior Researcher, Meteorological Research Institute, Japan Meteorological Agency.
04/2022 –present Research Professor, Institute of Radiation Emergency Medicine, Hirosaki University.
04/2019 –present Cooperative Researcher, Research Institute for Humanity and Nature, National Institutes for the Humanities.
04/2019 –present Guest Researcher, Institute of Radiation Emergency Medicine, Hirosaki University.
02/2014 – 03/2014 Alternated Sponsored Fellow (ASF), Pacific Northwest National Laboratory, USA.
12/2013 – 03/2018 Guest researcher, Advanced Institute for Computational Science, RIKEN
02/2012 – 02/2013 Alternated Sponsored Fellow (ASF), Pacific Northwest National Laboratory, USA.
11/2010 – 03/2014 Researcher, Meteorological Research Institute, Japan Meteorological Agency.
04/2010 – 10/2010 Project Assistant Professor, Research Center for Advanced Science and Technology, The University of Tokyo.
04/2007 – 03/2010 Postdoctoral Fellow of Japan Society for the Promotion of Science (PD), Research Center for Advanced Science and Technology, University of Tokyo.
04/2006 – 03/2007 Postdoctoral Fellow (21st century COE program researcher), Disaster Prevention Research Institute, Kyoto University.
04/2005 – 03/2006 Postdoctoral Fellow of Japan Society for the Promotion of Science (PD), Disaster Prevention Research Institute, Kyoto University.
06/2004 – 07/2004 Visiting Researcher, Center for Global and Regional Environmental Research, University of Iowa, USA.
04/2004 – 03/2005 Research Fellow of Japan Society for the Promotion of Science (DC2), Disaster Prevention Research Institute, Kyoto University.
06/2003 – 08/2003 YSSPer (Young Scientists Summer Program), Transboundary Air Pollution research group, International Institute for Applied Systems Analysis, Austria
04/2002 – 03/2004 Research Assistant, Disaster Prevention Research Institute, Kyoto University.

Education Experience

11/2022 –present Professor, Cooperative Graduate School System, Faculty of Life and Environmental Sciences, University of Tsukuba.

11/2016–10/2022 Associate Professor, Cooperative Graduate School System, Faculty of Life and Environmental Sciences, University of Tsukuba.
Latter semester, 2024 Adjunct lecturer, Faculty of Agriculture, Tokyo University of Agriculture and Technology.
Latter semester, 2022 Adjunct lecturer, Faculty of Agriculture, Tokyo University of Agriculture and Technology.
First semester, 2014 Adjunct lecturer, Environmental & Renewable Energy Systems, Graduate School of Engineering, Gifu University.
Latter semester, 2013 Adjunct lecturer, Environmental and Renewable Energy Systems, Graduate School of Engineering, Gifu University.
Full semester, 2008 Adjunct lecturer, The Department of Elementary Education, Faculty of Letters, Tsuru University.
Latter semester, 2007 Adjunct lecturer, Environmental & Renewable Energy Systems, Graduate School of Engineering, Gifu University.

Awards

Research Paper Award from Japan Society for Atmospheric Environment, 2015.
Research Paper Award from Japan Association of Aerosol Science and Technology, 2012.

International publications (Peer reviewed): first author: 27, non-first corresponding: 2, contributing author: 106

In preparation

144. Anand, A. K. A., D. Ganguly, I. Nandi, **M. Kajino**, S. Dey, Disentangling the separate and combined effects of aerosol-radiation and aerosol-photolysis interactions on air quality over India, *npj Clean Air*, in review.
143. Sahu, L. K., M. Gupta, N. Tripathi, R. Yadav, T. Malik, effect of different sources and meteorology on the variability of VOC composition during the winter-to-summer transition period in a western India megacity, *J. Geophys. Res.*, in review.

In review

142. Iinuma, Y., **M. Kajino**, Typhoon-enhanced BVOC and pollutants drive highly oxidized SOA formation in subtropical evergreen forests in Okinawa, Japan, *ACS Earth Space Chem.*, in review.
141. Kong, K., **M. Kajino**, Y. Shao, J. Wu, K. Kawai, T. T. Sekiyama, T. Maki, Y. Kuroski, M. Ishizuka, B. Nandintsetseg, M. Shinoda, B. Buyantogtokh, and B. Gantsetseg, Parameterization of dead vegetation effects on dust emission using soil tillage index in an offline meteorology-chemistry model, *Aeolian Res.*, in review.
140. Akami, S., K. Kondo, H. L. Tanaka, and **M. Kajino**, Bayesian optimization for parameter estimation of local particle filter, *J. Meteor. Soc. Japan*, in review.
139. Kajikawa, T., **M. Kajino**, H. Okochi, and A. Hashimoto, Modeling study on the effects of changes in cloud condensation nuclei and ice nucleating particles number concentration on heavy rainfall in downtown Tokyo, *J. Geophys. Res.*, in review.
138. Ching, J., **M. Kajino**, and S. Hayashida, Examining air quality change during COVID-19 in Delhi from ground-based observations and regional meteorology-chemistry model simulations, *Atmos. Environ.*, in review.
137. Ching, J., **M. Kajino**, and H. Matsui, Coanalysis of atmospheric warming and respiratory deposition of black carbon from a socioeconomic perspective, *Sci. Rep.*., in revision.

Preprint (in review, but published)

136. **Kajino, M.**, K. Ishijima, J. Ching, K. Yamaji, R. Ishikawa, T. Kajikawa, T. Singh, T. Nakayama, Y. Matsumi, K. Kojima, P. K. Patra, and S. Hayashida, Impact of post-monsoon crop residue burning on PM_{2.5} over North India: Optimizing emissions using a high-density in situ surface observation network, EGUsphere [preprint], <https://doi.org/10.5194/egusphere-2024-1811>, under review for *Atmos. Chem. Phys.* (co-corresponding author).

Accepted

135. Sekiyama, T. T., and **M. Kajino**, Dispersion simulation using the 1-km gridded wind fields constructed by super-resolution surrogate downscaling, *J. Meteor. Soc. Japan*, accepted.
134. Ishihara, Y., **M. Kajino**, Y. Iwamoto, Y. Nabetani, T. Okuda, M. Kono, and H. Okochi, Impact of artificial sunlight aging on the respiratory effects of polyethylene terephthalate microplastics through degradation-mediated terephthalic acid release in male mice, *Toxicol. Sci.*, accepted (co-corresponding author).

(2025)

133. Rawat, V., N. Singh, S. K. Dhaka, P. K. Patra, Y. Matsumi, T. Nakayama, S. Hayashida, **M. Kajino** and, S. Kimothi., Insights into aerosol vertical distribution, subtype, and secondary particle formation in central Himalayas: A COVID-19 lockdown perspective, *Atmos. Environ.*, 343, 121015, <https://doi.org/10.1016/j.atmosenv.2024.121015>, 2025 (Dec. 19, 2024).
132. Mangaraj, P., Y. Matsumi, T. Nakayama, A. Biswal, K. Yamaji, K., H. Araki, N. Yasutomi, M. Takigawa, P. K. Patra, S. Hayashida, A. Sharma, A. P. Dimri, S. K. Dhaka, M. S. Bhatti, **M. Kajino**, S. Mor, R. Khaiwal, S. Bhardwaj, V. J. Vazhathara, R. K. Kunchala, T. M. Mandal, P. Misra, T. Singh, K. Vatta, and S. Mor, Weak coupling of observed surface PM_{2.5} in Delhi-NCR with rice crop residue burning in Punjab and Haryana, *npj Clim. Atmos. Sci.*, <https://doi.org/10.1038/s41612-025-00901-8>, 8:18, 9 pp., 2025 (Jan, 15).

(2024)

131. **Kajino, M.**, Kayaba, S., Ishihara, Y., Iwamoto, Y., Okuda, T., and H. Okochi, Numerical simulation of IL-8-based relative inflammation potentials of aerosol particles from vehicle exhaust and non-exhaust emission sources, *Atmos. Environ.: X*, 21, 100237, <https://doi.org/10.1016/j.aaeoa.2024.100237>, 2024. (Jan. 18)
130. Inomata, Y., A. Matsuki, **M. Kajino**, Y. Chigira, H. Kaneyasu, T. Seto, Decreased trend of PM_{2.5} and BC concentrations observed on central and western Japanese islands, *Atmos. Pollut. Res.*, 15, 102258, <https://doi.org/10.1080/j.apr.2024.102258>, 2024 (Jul. 17)
129. Kono, M., N. Ishihara, Y. Nabeatni, **M. Kajino**, T. Okuda, C. Koriyama, C. F. A. Vogel, M. Tsuji, and Y. Ishihara, Enhancement of keratinocyte survival and migration elicited by interleukin 24 upregulation in dermal microvascular endothelium upon welding-fume exposure, *J. Toxicol. Environ. Part A*, 87(19), 792-810, <https://doi.org/10.1080/15287394.2024.2372403>, 2024 (Jun. 28).

(2023)

128. Yamagami, A., **M. Kajino**, T. Maki, and T. Toyoda, Spatiotemporal variations in summertime Arctic aerosol optical depth caused by synoptic-scale atmospheric circulation in three reanalyses, *J. Geophys. Res.*, 128, e2022JD038007, 10 pp., <https://doi.org/10.1029/2022JD038007>, 2023. (Oct. 17)
127. Kayaba, S. and **M. Kajino**, Potential impacts of energy and vehicle transformation through 2050 on oxidative stress-inducing PM_{2.5} metals concentration in Japan, *GeoHealth*, 7, e2023GH000789, 29 pp., <https://doi.org/10.1029/2023GH000789>, 2023. (Oct. 14)
126. Kayaba, S. and **M. Kajino**, Potential impact of battery electric vehicle penetration and changes in upstream process emissions assuming night-charging on summer O₃ concentrations in Japan, *J. Geophys. Res.*, 128, e2022JD037578, 21 pp., <https://doi.org/10.1029/2022JD037578>, 2023. (May 22)
125. Sato, Y., **M. Kajino**, S. Hayashi, and R. Wada, A numerical study of lightning-induced NO_x and formation of NO_y observed at the summit of Mt. Fuji using an explicit bulk lightning and photochemistry model, *Atmos. Environ.: X*, 18, 100218, <https://doi.org/10.1016/j.aaeoa.2023.100218>, 2023. (May 4)

Corrigendum issued at <https://doi.org/10.1016/j.aaeoa.2023.100231> (Dec. 26)

124. Kuramochi, M., **M. Kajino**, and H. Ueda, Interannual variability of dust deposition in Japan during spring season and related atmospheric circulation fields, *J. Meteor. Soc. Japan*, 101(4), 255-270, <https://doi.org/10.2151/jmsj.2023-016>, 2023. (Mar. 30)
123. Hidaka, A., S. Kawashima, **M. Kajino**, Radio-tellurium released into the environment during the complete

- 6xidation of fuel cladding, containment venting and reactor building failure of the Fukushima accident, *J. Nucl. Sci. Technol.*, 60(7), 743-758, <https://doi.org/10.1080/00223131.2022.2142311>, 2023. (Jan 25)
122. Sekiyama, T. T., Y. Kurosaki, **M. Kajino**, M. Ishizuka, B. Buyantogtokh, J. Wu, and T. Maki, Improvement in dust storm simulation by considering stone coverage effects for stony deserts in East Asia, *J. Geophys. Res.*, 128, e2022JD037295, <https://doi.org/10.1029/2022JD037295>, 2023. (Jan. 11)
121. Wada, R., S. Yonemura, A. Tani, and **M. Kajino**, Review: Exchanges of O₃, NO, and NO₂ between forest ecosystems and the atmosphere, *J. Agric. Meteorol.*, 79(1), 38-48, <https://doi.org/10.2480/agrmet.D-22-00023>, 2023. (Oct. 24, 2022, accepted)
120. Maki, T., K. Hosaka, K. Lee, Y. Kawabata, **M. Kajino**, M. Uto, K. Kita, and Y. Igarashi, Vertical distribution of airborne microorganisms over forest environments: a potential source of ice nucleating bioaerosols, *Atmos. Environ.*, 302, 119726, <https://doi.org/10.1016/j.atmosenv.2023.119726>, 2023. (Mar. 15)
119. Fujitani, Y., A. Furuyama, M. Hayashi, H. Hagino, and **M. Kajino**, Assessing oxidative stress induction ability and oxidative potential of PM_{2.5} in cities in eastern and western Japan, *Chemosphere*, 324, 138308, <https://doi.org/10.1016/j.chemosphere.2023.138308>, 2023. (Mar. 6)
118. Singh, T., Y. Matsumi, T. Nakayama, S. Hayashida, P. K. Patra, N. Yasutomi, P. Khatri, **M. Kajino**, K. Yamaji, R. Imasu, M. Takigawa, S. K. Dhaka, Narendra, R. Khaiwal, S. Mor, K. Vatta, M. S. Bhatti, A. P. Dimri, A. Sharma, Very high particulate pollution over northwest India captured by a high-density in situ sensor network, *Sci. Rep.*, 13:13201, <https://doi.org/10.1038/s41598-023-39471-1>, 2023. (Aug. 14)
117. Wang, Y., H. Okochi, Y. Tani, H. Hayami, Y. Minami, N. Katsumi, M. Takeuchi, A. Sorimachi, Y. Fujii, **M. Kajino**, K. Adachi, Y. Ishihara, Y. Iwamoto, and Y. Niida, Airborn hydrophilic microplastics in cloud water at high altitudes and their role in cloud formation, *Environ. Chem. Lett.*, 21, 3055-3062, <https://doi.org/10.1007/s10311-023-01626-x>, 2023. (Aug. 14)
- (2022)
116. **Kajino, M.**, A. Kamada, N. Tanji, M. Kuramochi, M. Deushi, and T. Maki, Quantitative influences of interannual variations in meteorological factors on surface ozone concentration in the hot summer of 2018 in Japan, *Atmos. Environ.: X*, 16, 100191, <https://doi.org/10.1016/j.aeaoa.2022.100191>, 2022. (Oct. 4)
115. **Kajino, M.**, A. Watanabe, M. Ishizuka, K. Kita, Y. Zaizen, T. Kinase, R. Hirai, K. Konnai, A. Saya, K. Iwaoka, Y. Shiroma, H. Hasegawa, N. Akata, M. Hosoda, S. Tokonami, and Y. Igarashi, Reassessment of the radiocesium resuspension flux from contaminated ground surfaces in eastern Japan, *Atmos. Chem. Phys.*, <https://doi.org/10.5194/acp-22-783-2022>, 2022. (Jan. 18)
114. Watanabe, M., **M. Kajino**, K. Ninomiya, Y. Nagahashi, and A. Shinohara, Eight-year variations in atmospheric radiocesium in Fukushima city, *Atmos. Chem. Phys.*, 22, 675-692, <https://doi.org/10.5194/acp-22-675-2022>, 2022. (Jan. 17) (co-corresponding author)
113. Yamagami, A., **M. Kajino**, T. Maki, Statistical evaluation of the temperature forecast error in the lower-level troposphere on short-range timescales induced by aerosol variability, *J. Geophys. Res.*, 127, e2022JD036595, <https://doi.org/10.1029/2022JD036595>, 2022. (Jun 15)
112. Doan, V.-Q., F. Chen, H. Kusaka, J. Wang, **M. Kajino**, and T. Takemi, Identifying a new normal in extreme precipitation at a city scale under warmer climate regimes: A case study of the Tokyo metropolitan area, Japan, *J. Geophys. Res.*, 127, e2022JD036810, <https://doi.org/10.1029/2022JD036810>, 2022. (Oct. 17, accepted)
111. Wang, K.-Y., P. Nedelec, H. Clark, N. Harris, **M. Kajino**, and Y. Igarashi, Impacts on air dose rates after the Fukushima accident over the North Pacific from 19 March 2011 to 2 September 2015, *PLoS ONE*, 17(8), e0272937, <https://doi.org/10.1371/journal.pone.0272937>, 2022. (Aug. 24)
110. Kinase, T., K. Adachi, M. Hayashi, K. Hara, K. Nishiguchi, and **M. Kajino**, Characterization of aerosol particles containing trace elements (Ga, As, Rb, Mo, Cd, Cs, Tl, and others) and their atmospheric concentrations with a high temporal resolution, *Atmos. Environ.*, 290, 119360, <https://doi.org/10.1016/j.atmosenv.2022.119360>, 2022. (Aug. 29)
109. Maki, T., T. Y. Tanaka, T. Koshiro, A. Shimizu, T. T. Sekiyama, **M. Kajino**, Y. Kurosaki, T. Okuro, and N. Oshima, Changes in dust emissions in the Gobi Desert due to global warming using MRI-ESM2.0, *Sci. Online Lett. Atmos.*, 18, 190-193, <https://doi.org/10.2151/sola.2022-035>, 2022 (Sep. 6)

108. Adachi, K., J. E. Dibb, E. Scheuer, J. M. Katich, J. P. Schwarz, A. E. Perring, B. Mediavilla, H. Guo, P. Campuzano-Jost, J. L. Jimenez, J. Crawford, A. J. Soja, N. Oshima, **M. Kajino**, T. Kinase, L. Kleinman, A. J. Sedlacek III, R. J. Yokelson, and P. R. Buseck, Fine ash-bearing particles as a major aerosol component in biomass burning smoke, *J. Geophys. Res.*, 127, e2021JD035657, <https://doi.org/10.1029/2021JD035657>, 2022. (Jan. 19)

(2021)

107. **Kajino, M.**, N. Tanji, M. Kuramochi, Better prediction of surface ozone by a superensemble method using emission sensitivity runs in Japan, *Atmos. Environ.: X*, 12, 100120, <https://doi.org/10.1016/j.aeaoa.2021.100120>, 2021. (Jul. 21)

106. **Kajino, M.**, M. Deushi, T. T. Sekiyama, N. Oshima, K. Yumimoto, T. Y. Tanaka, J. Ching, A. Hashimoto, T. Yamamoto, M. Ikegami, A. Kamada, M. Miyashita, Y. Inomata, S. Shima, P. Khatri, A. Shimizu, H. Irie, K. Adachi, Y. Zaizen, Y. Igarashi, H. Ueda, T. Maki, M. Mikami, Comparison of three aerosol representations of NHM-Chem (v1.0) for the simulations of air quality and climate-relevant variables, *Geosci. Model Dev.*, 14, 2235-2264, <https://doi.org/10.5194/gmd-14-2235-2021>, 2021. (Apr. 30)

105. **Kajino, M.**, H. Hagino, Y. Fujitani, T. Morikawa, T. Fukui, K. Onishi, T. Okuda, and Y. Igarashi, Simulation of the transition metal-based cumulative oxidative potential in East Asia and its emission sources in Japan, *Sci. Rep.*, 11:6550, <https://doi.org/10.1038/s41598-021-85894-z>, 12 pp., 2021. (Mar. 22)

104. **Kajino, M.**, K. Adachi, Y. Igarashi, Y. Satou, M. Sawada, T. T. Sekiyama, Y. Zaizen, A. Saya, H. Tsuruta, and Y. Moriguchi, Deposition and dispersion of radio-cesium released due to the Fukushima nuclear accident: 2. Sensitivity to aerosol microphysical properties of Cs-bearing microparticles (CsMP), *J. Geophys. Res.*, 126(1), e2020JD033460, <https://doi.org/10.1029/2020JD033460>, 23 pp., 2021. (Jan. 16)

103. Nakata M., **M. Kajino**, Y. Sato, Effects of mountains on aerosols determined by AERONET/DRAGON/J-ALPS measurements and regional model simulations, *Earth Space Sci.*, 8, e2021EA001972, <https://doi.org/10.1029/2021EA001972>, 2021. (Nov. 16)

102. Sekiyama, T. T. and **M. Kajino**, Performance of a 250-m grid Eulerian dispersion simulation evaluated at two coastal monitoring stations in the vicinity of the Fukushima Daiichi Nuclear Power Plant, *J. Meteor. Soc. Japan*, 99(4), 1089-1098, <https://doi.org/10.2151/jmsj.2021-052>, 2021. (May 10)

101. Niwano, M., **M. Kajino**, T. Kajikawa, T. Aoki, Y. Kodama, T. Tanikawa, and S. Matoba, Quantifying relative contributions of light-absorbing particles from domestic and foreign sources on snow melt at Sapporo, Japan, *Geophys. Res. Lett.*, 48, e2021GL093940, 10 pp., <https://doi.org/10.1029/2021GL093940>, 2021. (Aug. 3)

100. Sekiyama, T. T., **M. Kajino**, M. Kunii, Ensemble dispersion simulation of a point-source radioactive aerosol using perturbed meteorological fields over eastern Japan, *Atmosphere*, 12, 662, <https://doi.org/10.3390/atmos12060662>, 2021. (May 22)

99. Kim, C.-H., F. Meng, **M. Kajino**, J. Lim, W. Tan, J.-J. Lee, Y. Kiriyama, J.-H. Woo, K. Sato, T. Kitada, J. Kim, K. B. Lee, S. A. Roh, H.-Y. Jo, and Y.-J. Jo, Comparative numerical study of PM_{2.5} in exit-and-entrance areas associated with transboundary transport over China, Japan, and Korea, *Atmosphere*, 12, 469, <https://doi.org/10.3390/atmos12040479>, 20 pp., 2021. (Apr. 8)

98. Inomata, Y., M. Takeda, N. Thao, **M. Kajino**, T. Seto, H. Nakamura, and K. Hayakawa, Particulate PAH transport associated with adult chronic cough occurrence closely connected with meteorological conditions: A modelling study, *Atmosphere*, 12, 1163, <https://doi.org/10.3390/atmos12091163>, 14 pp., 2021. (Sep. 10)

97. Misra, P., M. Takigawa, P. Khatri, S. K. Dhaka, A. P. Dimri, K. Yamaji, **M. Kajino**, W. Takeuchi, R. Imasu, P. K. Patra, and S. Hayashida, Nitrogen oxides concentration and emission change detection during COVID-19 restrictions in North India, *Sci. Rep.*, 11, 9800, <https://doi.org/10.1038/s41598-021-87673-2>, 2021. (May 7)

96. Itahashi, S., B. Ge, K. Sato, Z. Wang, J. Kurokawa, T. Jiani, J. S. Fu, X. Wang, K. Yamaji, T. Nagashima, J. Li, **M. Kajino**, G. R. Carmichael, and Z. Wang, Insights into seasonal variation of wet deposition over Southeast Asia via precipitation adjustment from the findings of MICS-Asia III, *Atmos. Chem. Phys.*, 21, 8709-8734, <https://doi.org/10.5194/acp-21-8709-2021>, 2021. (Jun. 9)

(2020)

95. **Kajino, M.**, H. Hagino, Y. Fujitani, T. Morikawa, T. Fukui, K. Onishi, T. Okuda, T. Kajikawa, and Y. Igarashi.

- Modeling transition metals in East Asia and Japan and its emission sources, *GeoHealth*, 4, e2020GH000259, <https://doi.org/10.1029/2020GH000259>, 22 pp., 2020. (Aug. 13)
94. Sekiyama, T. T. and **M. Kajino**, Reproducibility of surface wind and tracer transport simulations over complex terrain using 5-, 3-, and 1-km grid models, *J. Appl. Meteorol. Clim.*, 59, 937-952, <https://doi.org/10.1175/JAMC-D-19-0241.1>, 2020. (May 01)
93. Ching, J. and **M. Kajino**, Rethinking air quality and climate change after COVID-19, *International Journal of Environmental Research and Public Health*, 17, 5167, 11 pp., <https://doi.org/10.3390/ijerph17145167>, 2020. (Jul. 17)
92. Ching, J., **M. Kajino**, H. Matsui, Resolving aerosol mixing state increases accuracy of black carbon respiratory deposition estimates, *One Earth*, 3, 763-776, <https://doi.org/10.1016/j.oneear.2020.11.004>, 2020. (Dec. 18)
91. Imamura, N., G. Katata, **M. Kajino**, M. Kobayashi, Y. Itoh, A. Akama, Fogwater deposition of radiocesium in the forested mountains of East Japan during the Fukushima Daiichi Nuclear Power Plant accident: A key process in regional radioactive contamination, *Atmos. Environ.*, 224, 117339, 11 pp., <https://doi.org/10.1016/j.atmosenv.2020.117339>, 2020. (Mar. 1)
90. Kinase, T., K. Adachi, T. T. Sekiyama, **M. Kajino**, Y. Zaizen, and Y. Igarashi, Temporal variations of ^{90}Sr and ^{137}Cs in atmospheric depositions after the Fukushima Daiichi Nuclear Power Plant accident with long-term observations, *Sci. Rep.*, 10:21627, <https://doi.org/10.1038/s41598-020-78312-3>, 8 pp., 2020. (Dec. 10)
89. Sato, Y., T. T. Sekiyama, S. Fang, **M. Kajino**, A. Quérel, D. Quélo, H. Kondo, H. Terada, M. Kadokawa, M. Takigawa, Y. Morino, J. Uchida, D. Goto, and H. Yamazawa, A Model intercomparison of atmospheric ^{137}Cs concentrations from the Fukushima Daiichi Nuclear Power Plant accident, Phase III: Simulation with an identical source term and meteorological field at 1 km resolution, *Atmos. Environ.: X*, 7, 100086, <https://doi.org/10.1016/j.aeaoa.2020.100086>, 2020. (Aug. 4)
88. Katata G., K. Matsuda, A. Sorimachi, **M. Kajino**, K. Takagi, Effects of aerosol dynamics and gas-particle conversion on dry deposition of inorganic reactive nitrogen in a temperate forest, *Atmos. Chem. Phys.*, 20, 4933-4949, <https://doi.org/10.5194/acp-20-4933-2020>, 2020. (Apr. 27)
87. Dragović, S., M. Yamauchi, M. Aoyama, **M. Kajino**, J. Petrović, M. Ćujić, R. Dragović, M. Đorđević, J. Bó, Synthesis of studies on significant atmospheric electrical effects of major nuclear accidents in Chernobyl and Fukushima, *Sci. Total Environ.*, 733, 139271, 14 pp., <https://doi.org/10.1016/j.scitotenv.2020.139271>, 2020. (Sep. 1)
86. Itahashi, S., B. Ge, K. Sato, J. S. Fu, X. Wang, K. Yamaji, T. Nagashima, J. Li, **M. Kajino**, H. Liao, M. Zhang, Z. Wang, M. Li, J. Kurokawa, G. R. Carmichael, and Z. Wang, MICS-Asia III: Overview of model inter-comparison and evaluation for acid deposition over Asia, *Atmos. Chem. Phys.*, 20, 2667-2693, <https://doi.org/10.5194/acp-20-2667-2020>, 2020. (Mar. 4)
85. Takigawa, M., P. K. Patra, Y. Matsumi, S. K. Dhaka, T. Nakayama, K. Yamaji, **M. Kajino**, and S. Hayashida, Can Delhi's pollution be affected by crop fires in the Punjab region?, *Sci. Online Lett. Atmos.*, 16, 86-91, <https://doi.org/10.2151/sola.2020-015>, 2020. (May 27)
84. Dhaka, S. K., Chetna, V. Kumar, V. Panwar, A. P. Dimri, N. Singh, P. K. Patra, Y. Matsumi, M. Takigawa, T. Nakayama, K. Yamaji, **M. Kajino**, P. Misra, and S. Hayashida, PM_{2.5} diminution and haze events over Delhi during the COVID-19 lockdown period: an interplay between the baseline pollution and meteorology, *Sci. Rep.*, 10:13442, <https://doi.org/10.1038/s41598-020-70179-8>, 2020. (Aug. 10)
83. Ge, B., S. Itahashi, K. Sato, D. Xu, J. Wang, F. Fan, Q. Tan, J. S. Fu, X. Wang, K. Yamaji, T. Nagashima, J. Li, **M. Kajino**, H. Liao, M. Zhang, Z. Wang, M. Li, J.-H. Woo, J. Kurokawa, Y. Pan, Q. Wu, X. Liu, and Z. Wang: Model Inter-Comparison Study for Asia (MICS-Asia) phase III: Multi-model comparison of reactive nitrogen deposition over China, *Atmos. Chem. Phys.*, 20, 10587-10610, <https://doi.org/10.5194/acp-20-10587-2020>, 2020. (Sep. 10)
82. Kubota, T., H. Kuroda, M. Watanabe, A. Takahashi, R. Nakazato, M. Tarui, S. Matsumoto, K. Nakagawa, Y. Numata, T. Ouchi, H. Hosoi, M. Nakagawa, R. Shinohara, **M. Kajino**, K. Fukushima, Y. Igarashi, N. Imamura, G. Katata, Role of advection in atmospheric ammonia: A case study at a Japanese lake basin influenced by agricultural ammonia sources, *Atmos. Environ.*, 243, 117856, <https://doi.org/10.1016/j.atmosenv.2020.117856>, 2020. (Dec. 15)
81. Kong, L., X. Tang, J. Zhu, Z. Wang, J. S. Fu, X. Wang, S. Itahashi, K. Yamaji, T. Nagashima, H.-J. Lee, C.-H. Kim, C.-Y. Lin, L. Chen, M. Zhang, Z. Tao, J. Li, **M. Kajino**, H. Liao, K. Sudo, Y. Wang, Y. Pan, G. Tang, M. Li, Q. Wu, B. Ge, G. R. Carmichael, Evaluation and uncertainty investigation of the NO₂, CO and NH₃ modeling over China under the framework of MICS-Asia III, *Atmos. Chem. Phys.*, 20, 181-202, <https://doi.org/10.5194/acp-20-181-2020>,

2020. (Jan. 06)

80. Tan, J., J. S. Fu, G. R. Carmichael, S. Itahashi, Z. Tao, K. Huang, X. Dong, K. Yamaji, T. Nagashima, X. Wang, Y. Liu, H.-J. Lee, C.-Y. Lin, B. Ge, **M. Kajino**, J. Zhu, M. Zhang, L. Hong, and Z. Wang, Why do models perform differently on particulate matter over East Asia? A multi-model intercomparison study for MICS-Asia III, *Atmos. Chem. Phys.*, 20, 7393-7410, <https://doi.org/10.5194/acp-20-7393-2020>, 2020. (Jun. 25)

(2019)

79. **Kajino, M.**, T. T. Sekiyama, Y. Igarashi, G. Katata, M. Sawada, K. Adachi, Y. Zaizen, H. Tsuruta, T. Nakajima. Deposition and dispersion of radio-cesium released due to the Fukushima nuclear accident: Sensitivity to meteorological models and physical modules, *J. Geophys. Res.*, 124(3), 1823-1845, <https://doi.org/10.1029/2018JD028998>, 2019. (Feb. 16)
78. **Kajino, M.**, M. Deushi, T. T. Sekiyama, N. Oshima, K. Yumimoto, T. Y. Tanaka, J. Ching, A. Hashimoto, T. Yamamoto, M. Ikegami, A. Kamada, M. Miyashita, Y. Inomata, S. Shima, A. Takami, A. Shimizu, S. Hatakeyama, Y. Sadanaga, H. Irie, K. Adachi, Y. Zaizen, Y. Igarashi, H. Ueda, T. Maki, M. Mikami. NHM-Chem, the Japan Meteorological Agency's regional meteorology – chemistry model: model evaluations toward the consistent predictions of the chemical, physical, and optical properties of aerosols, *J. Meteor. Soc. Japan*, 97(2), 337-374, <https://doi.org/10.2151/jmsj.2019-020>, 2019. (Dec. 9)
77. **Kajino, M.**, S. Hayashida, T. T. Sekiyama, M. Deushi, K. Ito, and X. Liu. Detectability assessment of a satellite sensor for lower tropospheric ozone responses to its precursors emission changes in East Asian summer, *Sci. Rep.*, 9:19629, <https://doi.org/10.1038/s41598-019-55759-7>, 8 pp., 2019. (Dec. 23)
76. Yumimoto, K., **M. Kajino**, T. Y. Tanaka, I. Uno. Dust vortex in the Taklimakan Desert by Himawari-8 high frequency and resolution observation, *Sci. Rep.*, 9:1209, <https://doi.org/10.1038/s41598-018-37861-4>, 7 pp., 2019. (Feb. 4)
75. Danielache, S. O., Yoshikawa, C., **Kajino, M.**, Itou, S., Kakeya, W., Yoshida, N., Igarashi, Y. Radioactive ^{35}S emitted from the Fukushima Nuclear Power Plant and its re-suspension from the contaminated area, *Geochemical Journal*, 53(2), 103-118, <https://doi.org/10.2343/geochemj.2.0542>, 2019. (Oct. 4, 2018, accepted)
74. Inatsu, M., H. Suzuki, **M. Kajino**, Relative risk assessment for hypothetical radioactivity emission at a snow climate site, *J. Meteor. Soc. Japan*, 97(1), 175-190, <https://doi.org/10.2151/jmsj.2019-010>, 2019. (Nov. 28, 2018)
73. Ching, J., K. Adachi, Y. Zaizen, Y. Igarashi, **M. Kajino**, Aerosol mixing state revealed by transmission electron microscopy pertaining to cloud formation and human airway deposition, *npj Climate and Atmospheric Science*, 2:22, <https://doi.org/10.1038/s41612-019-0081-9>, 7 pp., 2019. (Jul. 11)
72. Igarashi, Y., K. Kita, T. Maki, T. Kinase, N. Hayashi, K. Hosaka, K. Adachi, **M. Kajino**, M. Ishizuka, T. T. Sekiyama, Y. Zaizen, C. Takenaka, K. Ninomiya, H. Okochi, A. Sorimachi, Fungal spore involvement in resuspension of radio cesium in summer, *Sci. Rep.*, 9:1954, <https://doi.org/10.1038/s41598-018-37698-x>, 10 pp. (Feb. 13)
71. Wada, R., Y. Sadanaga, S. Kato, N. Katsumi, H. Okochi, Y. Iwamoto, K. Miura, H. Kobayashi, H. Kamogawa, J. Matsumoto, S. Yonemura, Y. Matsumi, **M. Kajino**, S. Hatakeyama, Ground-based observation of lightning-induced nitrogen oxides at a mountaintop in free troposphere, *Journal of Atmospheric Chemistry*, 76(2), 133-150, <https://doi.org/10.1007/s10874-019-09391-4>, 2019. (May 14)
70. Chen, L., Y. Gao, M. Zhang, J. S. Fu, J. Zhu, H. Liao, J. Li, K. Huang, B. Ge, X. Wang, Y. F. Lam, C. Y. Lin, S. Itahashi, T. Nagashima, **M. Kajino**, K. Yamaji, Z. Wang, J.-I. Kurokawa, MICS-Asia III: Multi-model comparison and evaluation of aerosol over East Asia, *Atmos. Chem. Phys.*, 19, 11911-11937, <https://doi.org/10.5194/acp-19-11911-2019>, 2019. (Sep. 25)
69. Li, J., T. Nagashima, L. Kong, B. Ge, K. Yamaji, J. S. Fu, X. Wang, Q. Fan, S. Itahashi, H.-J. Lee, C.-H. Kim, C.-Y. Lin, M. Zhang, Z. Tao, **M. Kajino**, H. Liao, M. Li, J.-H. Woo, J.-I. Kurokawa, Q. Wu, H. Akimoto, G. R. Carmichael, Z. Wang, Model evaluation and inter-comparison of surface-level ozone and relevant species in East Asia in the context of MICS-Asia phase III Part I: overview, *Atmos. Chem. Phys.*, 19, 12993-13015, <https://doi.org/10.5194/acp-19-12993-2019>, 2019. (Oct. 21)

(2018)

68. **Kajino, M.**, T. T. Sekiyama, A. Mathieu, I. Korsakissok, R. Périllat, D. Quélo, A. Quérel, O. Saunier, K. Adachi, S. Girard, T. Maki, K. Yumimoto, D. Didier, O. Masson, Y. Igarashi, Lessons learned from atmospheric modeling studies after the Fukushima nuclear accident: Ensemble simulations, data assimilation, elemental process modeling, and inverse modeling, *Geochemical Journal* 52(2), 85-101, <https://doi.org/10.2343/geochemj.2.0503>, 2018 (Sep. 13, 2017, accepted).
67. Mathieu, A., **M. Kajino**, I. Korsakissok, R. Périrat, D. Quélo, A. Quérel, O. Saunier, T. T. Sekiyama, Y. Igarashi, D. Didier. Fukushima Daiichi-derived radionuclides in the atmosphere, transport and deposition in Japan: A review, *Appl. Geochem.*, 91, 122-139, <https://doi.org/10.1016/j.apgeochem.2018.01.002>, 2018. (Jan. 31)
66. Hayashida, S., **M. Kajino**, M. Deushi, T. T. Sekiyama, X. Liu, Seasonality of the lower tropospheric ozone over central China observed by the Ozone Monitoring Instrument, *Atmos. Environ.*, 184, 244-253, <https://doi.org/10.1016/j.atmosenv.2018.04.014>, 2018. (Apr. 24)
65. Ching, J. **M. Kajino**, Aerosol mixing state matters for particles deposition in human respiratory system, *Sci. Rep.*, 8:8864, <https://doi.org/10.1038/s41598-018-27156-z>, 2018. (Jun. 11)
64. Sahu, L. K., N. Tripathi, V. Sheel, **M. Kajino**, M. Deushi, R. Yadav, P. Nedelec, Impact of cyclone *Nilam* on vertical distribution of carbon monoxide over Chennai in peninsular India, *Q. J. R. Meteorol. Soc.*, 144, 1091-1105, <https://doi.org/10.1002/qj.3276>, 2018. (Apr. 10)
63. Sato, Y., M. Takigawa, T. Sekiyama, **M. Kajino**, H. Terada, H. Nagai, H. Kondo, J. Uchida, D. Goto, D. Quélo, A. Mathieu, I. Korsakissok, A. Quérel, S. Fang, Y. Morino, P. von Schoenberg, H. Grahn, N. Brännström, S. Hirao, H. Tsuruta, H. Yamazawa, T. Nakajima, Model intercomparison of atmospheric ^{137}Cs from the Fukushima Daiichi Nuclear Power Plant accident: Simulations based on identical input data, *J. Geophys. Res.*, 123, 11,748-11,765, <https://doi.org/10.1029/2018JD029144>, 2018. (Oct. 27)
62. Inomata, Y., M. Aoyama, T. Tsubono, D. Tsumune, Y. Kumamoto, H. Nagai, T. Yamagata, **M. Kajino**, T. Tanaka, T. Sekiyama, E. Oka, M. Yamada, Estimate of Fukushima-derived radiocaesium in the North Pacific Ocean in summer 2012, *J. Radioanal. Nucl. Chem.*, 318(3), 1587-1596, <https://doi.org/10.1007/s10967-018-6249-7>, 2018. (Nov. 10)
61. Kitayama, K., Y. Morino, M. Takigawa, T. Nakajima, H. Hayami, H. Nagai, H. Terada, K. Saito, T. Shimbori, **M. Kajino**, T. T. Sekiyama, D. Didier, D. Quélo, T. Ohara, H. Tsuruta, Y. Oura, M. Ebihara, Y. Moriguchi, T. Shibata, Atmospheric modeling of ^{137}Cs plumes from the Fukushima Daiichi Nuclear Power Plant – Evaluation of the model intercomparison data of the Science Council of Japan, *J. Geophys. Res.*, 123(14), 7047-7796, <https://doi.org/10.1029/2017JD028230>, 2018. (Jul. 6)
- (2017)
60. **Kajino, M.**, H. Ueda, Z. Han, R. Kudo, Y. Inomata, H. Kaku, Synergy between air pollution and urban meteorological changes through aerosol-radiation-diffusion feedback – A case study of Beijing in January 2013, *Atmos. Environ.* 171, 98-110, <https://doi.org/10.1016/j.atmosenv.2017.10.018>, 2017. (Oct. 10)
59. Inomata, Y., **M. Kajino**, K. Sato, J. Kurokawa, N. Tang, T. Ohara, K. Hayakawa, H. Ueda. Source-receptor relationship analysis of the atmospheric deposition of PAHs subject to long-range transport in northeast Asia, *Environ. Sci. Technol.*, 51(14), 7972-7981, <https://doi.org/10.1021/acs.est.7b00776>. 2017. (Jul. 7)
58. Sekiyama, T. T., **M. Kajino**, M. Kunii. The impact of surface wind data assimilation on the predictability of near-surface plume advection in the case of the Fukushima Nuclear Accident, *J. Meteor. Soc. Japan*, 95(6), 447-454, <https://doi.org/10.2151/jmsj.2017-025>, 2017. (Aug. 28)
57. Sahu, L. K., V. Seel, **M. Kajino**, M. Deushi, S. S. Gunthe, P. R. Sinha, R. Yadav, D. Pal, P. Nedelec, V. Thouret, Herman G. Smit. Impact of tropical convection and ENSO variability in vertical distribution of CO and O_3 over an urban site of India, *Climate Dynamics*, 49, 449-469, <https://doi.org/10.1007/s00382-016-3353-7>, 2017. (Sep. 23)
- (2016)
56. **Kajino, M.**, M. Ishizuka, Y. Igarashi, K. Kita, C. Yoshikawa, M. Inatsu. Long-term assessment of airborne radiocesium after the Fukushima nuclear accident: Re-suspension from bare soil and forest ecosystems, *Atmos. Chem. Phys.*, 16, 13149-13172, <https://doi.org/10.5194/acp-16-13149-2016>, 2016. (Oct. 27)
55. Aoyama, M., **M. Kajino**, T. Y. Tanaka, T. T. Sekiyama, D. Tsumune, T. Tsubono, Y. Hamajima, Y. Inomata, T. Gamo. ^{134}Cs and ^{137}Cs in the North Pacific Ocean derived from the March 2011 TEPOCO Fukushima Daiichi

Nuclear Power Plant accident, Japan. Part two: estimation of ^{134}Cs and ^{137}Cs inventories in the North Pacific Ocean, *J. Oceanography*, 72, 67-76, <https://doi.org/10.1007/s10872-015-0332-2>, 2016. (Nov. 17)

54. Aikawa, M., Y. Morino, **M. Kajino**, T. Hiraki, H. Mukai, Candidates to provide a specific concentration difference for ambient sulfur and nitrogen compounds near the coastal and roadside sites of Japan, *Water, Air, & Soil Pollution*, 227(9), 1-12, <https://doi.org/10.1007/s11270-016-3069-7>, 2016. (Sep. 1)
53. Sinha, P. R., L. K. Sahu, R. K. Manchanda, V. Sheel, M. Deushi, **M. Kajino**, M. G. Schultz, N. Nagendra, Prashant Kumar, D. B. Trivedi, B. Tech, S. K. Koli, S. K. Peshin, C. Tzanis, S. Sreenivasan. Transport of tropospheric and stratospheric ozone over India: balloon borne observations and modeling analysis, *Atmos. Environ.* 131, 228-242, <https://doi.org/10.1016/j.atmosenv.2016.02.001>, 2016. (Feb. 9)

(2015)

52. **Kajino, M.**, Aikawa, M. A model validation study of the washout/rainout contribution of sulfate and nitrate in wet deposition compared with precipitation chemistry data in Japan, *Atmos. Environ.*, 117, 124-134, <https://doi.org/10.1016/j.atmosenv.2015.06.042>, 2015. (Jul. 2)
51. Igarashi, Y., **M. Kajino**, Y. Zaizen, K. Adachi, M. Mikami. Atmospheric radioactivity over Tsukuba, Japan: A summary of three years of observations after the FDNPP Accident. *Progress in Earth and Planetary Science*, 2:44, <https://doi.org/10.1186/s40645-015-0066-1>, 2015. (Dec. 9)
50. Sekiyama, T. T., M. Kunii, **M. Kajino**, T. Shimbori, Horizontal resolution dependence of atmospheric simulations of the Fukushima nuclear accident using 15-km, 3-km, and 500-m grid models, *J. Meteor. Soc. Japan*, 93(1), 49-64, <https://doi.org/10.2151/jmsj.2015-002>, 2015. (Oct. 1, 2014)
49. Li, Y., J. An, **M. Kajino**, I. Gultepe, Y. Chen, T. Song, J. Xin, Impacts of additional HONO sources on O_3 and $\text{PM}_{2.5}$ chemical coupling strategies in the Beijing-Tianjin-Hebei region of China, *Tellus B*, 67, 23930, <https://doi.org/10.3402/tellusb.v67.23930>, 2015. (Mar. 4)
48. Li, Y., J. An, **M. Kajino**, J. Li, Y. Qu, Impacts of additional HONO sources on concentrations and deposition of NO_y in the Beijing-Tianjin-Hebei region of China, *Sci. Online Lett. Atmos.*, 11, 36-42, <https://doi.org/10.2151/sola.2015-009>, 2015. (Feb. 23, accepted)
47. Goto, D., T. Nakajima, T. Dai, T. Takemura, **M. Kajino**, H. Matsui, Y. Hara, A. Takami, S. Hatakeyama, N. Sugimoto, A. Shimizu, T. Ohara. An evaluation of simulated sulfate over East Asia through global model inter-comparison, *J. Geophys. Res.* 120, 6247-6270, <https://doi.org/10.1002/2014JD021693>, 2015. (Jun. 27)
46. Katata, G., M. Chino, T. Kobayashi, H. Terada, M. Ota, H. Nagai, **M. Kajino**, R. Draxler, M. C. Hert, A. Malo, T. Torii and Y. Sanada, Detailed source term estimation of the atmospheric release for the Fukushima Daiichi Nuclear Power Station accident by coupling simulations of atmospheric dispersion model with improved deposition scheme and oceanic dispersion model, *Atmos. Chem. Phys.*, 15, 1029-1070, <https://doi.org/10.5194/acp-15-1029-2015>, 2015. (Jan. 30)

(2014)

45. Aikawa, M., **M. Kajino**, T. Hiraki, H. Mukai. The contribution of site to washout and rainout: precipitation chemistry based on sample analysis from 0.5 mm precipitation increments and numerical simulation, *Atmos. Environ.*, 95, 165-174, <https://doi.org/10.1016/j.atmosenv.2014.06.015>, 2014. (Jun. 12)
44. Katata, G., **M. Kajino**, K. Matsuda, A. Takahashi, K. Nakaya, A numerical study of the effects of aerosol hygroscopic properties to dry deposition on a broad-leaved forest, *Atmos. Environ.*, 97, 501-510, <https://doi.org/10.1016/j.atmosenv.2013.11.028>, 2014. (Nov. 22)
43. Sahu, L. K., V. Sheel, **M. Kajino**, M. Deushi, S. S. Gunthe, P. R. Sinha, B. Sauvage, V. Thouret, H. G. Smit, Seasonal and inter-annual variability of tropospheric ozone over an urban site in India: A study based on MOZAIC and CCM vertical profiles over Hyderabad, *J. Geophys. Res.*, 119, 3615-3641, <https://doi.org/10.1002/2013JD021215>, 2014. (Mar. 12)
42. Adachi K., Y. Zaizen, **M. Kajino**, Y. Igarashi, Mixing state of regionally-transported soot particles and the coating effect on their size and shape at a mountain site in Japan, *J. Geophys. Res.*, 119, 5386-5396, <https://doi.org/10.1002/2013JD020880>, 2014. (Apr. 22)
41. Sheel, V., L. K. Sahu, **M. Kajino**, M. Deushi, O. Stein, P. Nedelec, Seasonal and inter-annual variability of carbon

- monoxide base on MOZAIC observations, MACC reanalysis and model simulations over an urban site in India, *J. Geophys. Res.*, 119(14), 9123-9141, <https://doi.org/10.1002/2013JD021425>, 2014. (Jun. 27)
40. Chatani, S., Y. Morino, H. Shimadera, H. Hayami, Y. Mori, K. Sasaki, **M. Kajino**, T. Yokoi, T. Morikawa, T. Ohara, Multi-model analyses of dominant factors influencing elemental carbon in Tokyo Metropolitan Area of Japan, *Aerosol and Air Quality Research*, 14, 396-405, <https://doi.org/10.4209/aaqr.2013.02.0035>, 2014. (Jan. 27)
39. Uchino, O., T. Sakai, T. Nagai, I. Morino, T. Maki, M. Deushi, K. Shibata, **M. Kajino**, T. Kawasaki, T. Akaho, S. Takubo, H. Okumura, K. Arai, M. Nakazato, T. Matsunaga, T. Yokota, S. Kawakami, K. Kita, Y. Sasano, DIAL measurement of lower tropospheric ozone over Saga (33.24°N, 130.29°E), Japan, and comparison with a chemistry-climate model, *Atmospheric Measurement Techniques*, 7, 1385-1394, <https://doi.org/10.5194/amt-7-1385-2014>, 2014. (May 21)
- (2013)
38. **Kajino, M.**, R. C. Easter, S. J. Ghan, Modal Bin Hybrid Model: a surface area consistent, triple moment sectional method for use in process-oriented modeling of atmospheric aerosols, *J. Geophys. Res.*, 118, 10,011-10,040, <https://doi.org/10.1002/jgrd.50685>, 30 pp., 2013. (Sep. 16)
37. **Kajino, M.**, K. Sato, Y. Inomata, H. Ueda, Source-receptor relationship of nitrate in Northeast Asia and influence of sea salt on the long-range transport of nitrate, *Atmos. Environ.*, 79, 67-78, <https://doi.org/10.1016/j.atmosenv.2013.06.024>, 2013. (Jun. 11, accepted)
36. Adachi, K., **M. Kajino**, Y. Zaizen, Y. Igarashi, Emission of spherical cesium-bearing particles from early stage of the Fukushima Daiichi nuclear power plant accident in Japan, *Sci. Rep.*, 3:2554, <https://doi.org/10.1038/srep02554>, 2013. (Aug. 30)
35. Inomata, Y., **M. Kajino**, K. Sato, T. Ohara, J. Kurokawa, H. Ueda, N. Tang, K. Hayakawa, T. Ohizumi, H. Akimoto, Source contribution analysis of surface particulate polycyclic aromatic hydrocarbon concentrations in Northeastern Asia by source-receptor relationships, *Environ. Pollut.*, 182, 324-334, <https://doi.org/10.1016/j.envpol.2013.07.020>, 2013. (Jul. 18, accepted)
34. Sahu, L. K., V. Sheel, **M. Kajino**, P. Nedelec, Variability in tropospheric carbon monoxide over an urban site in Southeast Asia, *Atmos. Environ.*, 68, 243-255, <https://doi.org/10.1016/j.atmosenv.2012.11.057>, 2013. (Nov. 12, 2012, accepted)
33. Sahu, L. K., V. Sheel, **M. Kajino**, S. S. Gunthe, V. Thouret, P. Nedelec, H. G. Smit, Characteristics of tropospheric ozone variability over an urban site in Southeast Asia: a study based on MOZAIC and MOZART vertical profiles, *J. Geophys. Res.*, 118(15), 8729-8747, <https://doi.org/10.1002/jgrd.50662>, 2013. (Aug. 16)
32. Liu, X., Y. Kondo, K. Ram, H. Matsui, K. Nakagomi, T. Ikeda, N. Oshima, R. L. Verma, N. Takegawa, M. Koike, **M. Kajino**, Seasonal variations of black carbon observed at the remote mountain site Happo in Japan, *J. Geophys. Res.*, 118(9), 3709-3722, <https://doi.org/10.1002/jgrd.50317>, 2013. (May 16)
- (2012)
31. **Kajino, M.**, Y. Inomata, K. Sato, H. Ueda, Z. Han, J. An, G. Katata, M. Deushi, T. Maki, N. Oshima, J. Kurokawa, T. Ohara, A. Takami, S. Hatakeyama, Development of the RAQM2 aerosol chemical transport model and prediction of the Northeast Asian aerosol mass, size, chemistry, and the mixing type, *Atmos. Chem. Phys.*, 12, 11833-11856, <https://doi.org/10.5194/acp-12-11833-2012>, 2012. (Dec. 17)
30. **Kajino, M.**, M. Deushi, T. Maki, N. Oshima, Y. Inomata, K. Sato, T. Ohizumi, H. Ueda, Modeling wet deposition and concentration of inorganics over Northeast Asia with MRI-PM/c, *Geosci. Model Dev.*, 5, 1363-1375, <https://doi.org/10.5194/gmd-5-1363-2012>, 2012. (Nov. 6)
29. Inomata, Y., **M. Kajino**, K. Sato, T. Ohara, J. Kurokawa, H. Ueda, N. Tang, K. Hayakawa, T. Ohizumi, H. Akimoto, Emission and atmospheric transport of particulate PAHs in Northeast Asia, *Environ. Sci. Tech.*, 46(9), 4941-4949, <https://doi.org/10.1021/es300391w>, 2012. (Mar. 22)
28. Ueda, H. T. Fukui, **M. Kajino**, M. Horiguchi, H. Hashiguchi, and S. Fukao, Eddy diffusivities for momentum and heat in the upper troposphere and lower stratosphere measured by MU radar and RASS, and a comparison of turbulence model predictions, *J. Atmos. Sci.*, 69, 323-337, <https://doi.org/10.1175/jas-d-11-023.1>, 2012. (Jan. 1)
27. Kim, C.-H., L.-S. Chang, F. Meng, **M. Kajino**, H. Ueda, Y. Zhang, H.-Y. Son, J.-J. Lee, Y. He, J. Xu, K. Sato, T. Sakurai, Z. Han, L. Duan, J.-S. Kim, S.-J. Lee, C.-K. Song, S.-J. Ban, S.-G. Shim, Y. Sunwoo, T.-Y. Lee, Sulfur

- deposition simulations over China, Japan and Korea: A model intercomparison study for abating sulfur emission, *Environ. Sci. Pollut. Res.*, 19, 4073-4089, <https://doi.org/10.1007/s11356-012-1071-1>, 2012. (Aug. 7)
26. Oshima, N., Y. Kondo, N. Moteki, N. Takegawa, M. Koike, K. Kita, H. Matsui, **M. Kajino**, H. Nakamura, J. S. Jung and Y. J. Kim, Wet removal of black carbon in Asian outflow: Aerosol Radiative Forcing in East Asia (A-FORCE) aircraft campaign, *J. Geophys. Res.*, 117, D03204, 24pp., <https://doi.org/10.1029/2011JD016552>, 2012. (Feb. 16)
25. Moteki, N., Y. Kondo, N. Oshima, N. Takegawa, M. Koike, K. Kita, H. Matsui, **M. Kajino**. Size dependence of wet removal of black carbon aerosols during transport from the boundary layer to the free troposphere, *Geophys. Res. Lett.*, 39, L13802, <https://doi.org/10.1029/2012GL052034>, 2012. (Jul. 4)
24. Koike M., N. Takegawa, N. Moteki, Y. Kondo, H. Nakamura, K. Kita, H. Matsui, N. Oshima, **M. Kajino**, T. Nakajima. Measurements of regional-scale aerosol impacts on cloud microphysics over the East China Sea: Possible influences of warm sea surface temperature over the Kuroshio ocean current, *J. Geophys. Res.*, 117, D17205, <https://doi.org/10.1029/2011JD017324>, 2012. (Sep. 11)
- (2011)
23. **Kajino, M.**, Y. Kondo, EMTACS: Development and regional-scale simulation of a size, chemical, mixing type and soot-shape resolved atmospheric particle model. *Journal of Geophysical Research*, 116, D02303, 28 pp., <https://doi.org/10.1029/2010JD015030>, 2011. (Jan. 27)
22. **Kajino, M.** MADMS: Modal Aerosol Dynamics model for multiple Modes and fractal Shapes in the free-molecular and near-continuum regimes. *Journal of Aerosol Science*, 42(4), 224-248, <https://doi.org/10.1016/j.jaerosci.2011.01.005>, 2011. (Feb. 3)
21. **Kajino, M.**, H. Ueda, K. Sato, T. Sakurai, Spatial distribution of the source - receptor relationship of sulfur in Northeast Asia, *Atmos. Chem. Phys.*, 11, 6475-6491, <https://doi.org/10.5194/acp-11-6475-2011>, 2011. (Jul. 7)
20. Katata, G., **M. Kajino**, T. Hiraki, M. Aikawa, T. Kobayashi, H. Nagai. A method for simple and accurate estimation of fog deposition in a mountain forest using a meteorological model. *J. Geophys. Res.*, 116, D20102, <https://doi.org/10.1029/2010JD015552>, 2011. (Oct. 18)
19. Kondo, Y., N. Oshima, **M. Kajino**, R. Mikami, N. Moteki, N. Takegawa, R. L. Verma, Y. Kajii, S. Kato, and A. Takami, Emissions of black carbon in East Asia estimated from the observations at a remote site in the East China Sea, *J. Geophys. Res.*, 116, D16201, <https://doi.org/10.1029/2011JD015637>, 2011. (Aug. 16)
18. Wang, Y., X. Wang, Y. Kondo, **M. Kajino**, J. W. Munger, J. Hao. Black carbon and its correlation with trace gases at a rural site in Beijing: Top-down constraints from ambient measurements on bottom-up emissions. *J. Geophys. Res.*, 116, D24304, <https://doi.org/10.1029/2011JD016575>, 2011. (Dec. 27)
17. Kim, C.-H., L.-S. Chang, J.-S. Kim, F. Meng, **M. Kajino**, H. Ueda, Y. Zhang, H.-Y. Son, Y. He, J. Xu, K. Sato, C.-K. Song, S.-J. Ban, T. Sakurai, Z. Han, L. Duan, S.-J. Lee, S.-G. Shim, S. Young, T.-Y. Lee, Long-term simulations of the sulfur concentrations over the China, Japan and Korea: A model comparison study, *Asia-Pacific Journal of Atmospheric Sciences*, 47(4), 399-411, <https://doi.org/10.1007/s13143-011-0025-8>, 2011. (Aug. 28)
16. Kondo, Y., H. Matsui, N. Moteki, L. Sahu, N. Takegawa, **M. Kajino**, Y. Zhao, M. J. Cubison, J. L. Jiminez, S. Vay, G. S. Diskin, B. Anderson, A. Wisthaler, T. Mikoviny, H. E. Fuelberg, D. R. Blake, G. Huey, A. J. Weinheimer, D. J. Knapp, and W. H. Brune. Emissions of black carbon, organic, and inorganic aerosols from biomass burning in North America and Asia in 2008, *J. Geophys. Res.*, 116, D08204, <https://doi.org/10.1029/2010JD015152>, 2011. (Apr. 27)
- (2010)
15. Oku, Y., **M. Kajino**, H. Ishikawa, Estimation of the cloud effective particle radius using MTSAT-1R data, *International Journal of Remote Sensing*, 31(20), 5439 – 5447, <https://doi.org/10.1080/01431160903369634>, 2010. (Oct. 21)
14. Katata, G., H. Nagai, **M. Kajino**, H. Ueda, Y. Hozumi, Numerical study of fog deposition on vegetation for atmosphere – land interactions in semi-arid and arid regions, *Agricultural and Forest Meteorology*, 150, 340 – 353, <https://doi.org/10.1016/j.agrformet.2009.11.016>, 2010. (Nov. 24, 2009, accepted)
- (2008)

13. **Kajino, M.**, H. Ueda, S. Nakayama, Secondary acidification: Changes in gas-aerosol partitioning of semi-volatile nitric acid and enhancement of its deposition due to increased emission and concentration of SO_x, *J. Geophys. Res.*, 113, D03302, <https://doi.org/10.1029/2007JD008635>, 2008. (Feb. 16)
12. Carmichael, G.R., **M. Kajino** (9th) and 20 authors, MICS-Asia II: The Model Intercomparison study for Asia Phase II, methodology and overview of findings, *Atmos. Environ.*, 42(15), 3468—3490, <https://doi.org/10.1016/j.atmosenv.2007.04.007>, 2008. (Apr. 4, 2007, accepted)
11. Wang, Z. **M. Kajino** (11th) and 18 authors, MICS-Asia II: Model inter-comparison and evaluation of acid deposition, *Atmos. Environ.*, 3528—3542, <https://doi.org/10.1016/j.atmosenv.2007.12.071>, 2008. (Dec. 30, 2007, accepted)
10. Han, Z, **M. Kajino** (12th) and 20 authors, MICS-Asia II: Model Intercomparison and evaluation of ozone and relevant species, *Atmos. Environ.*, 42(15), 3491—3509, <https://doi.org/10.1016/j.atmosenv.2007.07.031>, 2008. (Jul. 13, 2007, accepted)
9. Holloway, T. **M. Kajino** (13th) and 21 authors, MICS-Asia II: Impact of global emissions on regional air quality in Asia, *Atmos. Environ.*, 3543—3561, <https://doi.org/10.1016/j.atmosenv.2007.10.022>, 2008. (Oct. 6, 2007, accepted)
8. Hayami, H., **M. Kajino** (15th) and 18 authors, MICS-Asia II: Model Intercomparison and evaluation of particulate sulfate, nitrate and ammonium, *Atmos. Environ.*, 42(15), 3510—3527, <https://doi.org/10.1016/j.atmosenv.2007.08.057>, 2008. (Aug. 30, 2007, accepted)

(2007)

7. **Kajino, M.**, H. Ueda, Chapter 2.6 Increase in nitrate deposition as a result of sulfur dioxide emission increase in Asia: Indirect acidification, *Developments in Environmental Sciences*, 6, 134—143, [https://doi.org/10.1016/S1474-8177\(07\)06026-3](https://doi.org/10.1016/S1474-8177(07)06026-3), 2007. (Oct. 16)

(2006)

6. **Kajino, M.**, W. Winiwarter, H. Ueda, Modeling retained water content in measured aerosol mass, *Atmos. Environ.*, 40(27), 5202—5213, <https://doi.org/10.1016/j.atmosenv.2006.04.016>, 2006. (Apr. 9, accepted)

(2005)

5. **Kajino, M.**, H. Ueda, H. Satsumabayashi, Z. Han, Increase in nitrate and chloride deposition in East Asia due to increased sulfate associated with the eruption of Miyakejima Volcano, *J. Geophys. Res.*, 110, D18203, <https://doi.org/10.1029/2005JD005879>, 2005. (Sep. 22)

(2004)

4. **Kajino M.**, H. Ueda, H. Satsumabayashi, J. An, Impacts of the eruption of Miyakejima Volcano on air quality over far east Asia, *J. Geophys. Res.*, 109, D21204, <https://doi.org/10.1029/2004JD004762>, 2004. (Nov. 6)
3. Uematsu, M., M. Toratani, **M. Kajino**, Y. Narita, Y. Senga, T. Kimoto, Enhancement of primary productivity in the western North Pacific caused by the eruption of the Miyake-jima Volcano, *Geophys. Res. Lett.*, 31(6), L06106, <https://doi.org/10.1029/2003GL018790>, 2004. (Mar. 18)
2. Satsumabayashi, H., M. Kawamura, T. Katsuno, K. Futaki, K. Murano, G. R. Carmichael, **M. Kajino**, M. Horiguchi, H. Ueda, Effects of Miyake volcanic effluents on airborne particles and precipitation in Central Japan, *J. Geophys. Res.*, 109, D19202, <https://doi.org/10.1029/2003JD004204>, 2004. (Oct. 7)

(2002)

1. An, J., H. Ueda, Z. Wang, K. Matsuda, **M. Kajino**, X. Cheng, Simulation of monthly mean nitrate concentrations in precipitation over East Asia, *Atmos. Environ.*, 36, 4159—4171, [https://doi.org/10.1016/S1352-2310\(02\)00412-0](https://doi.org/10.1016/S1352-2310(02)00412-0), 2002. (Jun. 12, accepted)

International publications (book chapters)

5. K. Kita, **M. Kajino**, Section 3.8 Monitoring the radioactivity of atmospheric aerosols and the influence of resuspension from the ground, *Environmental Contamination from the Fukushima Nuclear Disaster-Dispersion, Monitoring, Mitigation and Lessons Learned*, Eds., T. Nakajima, T. Ohara, M. Uematsu, Y. Onda, ISBN:978-1-108-47580-8, 2019.
4. **Kajino, M.** Chapter 6 Model Simulation of Atmospheric Aerosols, *Trans-Boundary Pollution in North-East Asia*, Eds. K. Hayakawa, S. Nagao, Y. Inomata, M. Inoue, and A. Matsuki, NOVA Science Publishers, ISBN:978-1-53614-742-2, 147-166, 2018.
3. Hayashida, S., S. Kayaba, M. Deushi, K. Yamaji, A. Ono, **M. Kajino**, T. T. Sekiyama, T. Maki, X. Liu, Chapter 13, Study of lower tropospheric ozone over central and eastern China: Comparison of satellite observation with model simulation. In *Land - Atmospheric Research Applications in South and Southeast Asia*, Springer Remote Sensing/Photogrammetry, Eds. Vadrevu, K., Ohara, T., Justice, C., Springer, 255-275, https://doi.org/10.1007/978-3-319-67474-2_13, 2018.
2. **Kajino, M.**, H. Ueda, Chapter 2. Secondary Acidification, *Monitoring, Control and Effects of Air Pollution*, Ed. Andrzej G. Chmielewski, InTech Open Access Publisher, ISBN:978-953-307-526-6, 15-38, 2011.
1. Ueda, H., **M. Kajino**, H. Satsumabayashi, Change of aerosol and precipitation in the mid troposphere over central Japan caused by Miyake volcanic effluents, *Air Pollution XII*, Wessex Inst. Technol. Press, ISBN:1-85312-722-1, 141-150, 2004.

International publications (others)

13. **Kajino, M.**, M. Deushi, T. T. Sekiyama, N. Oshima, K. Yumimoto, T. Y. Tanaka, J. Ching, A. Hashimoto, T. Yamamoto, M. Ikegami, A. Kamada, M. Miyashita, Y. Inomata, S. Shima, K. Adachi, Y. Zaizen, Y. Igarashi, H. Ueda, T. Maki, M. Mikami. NHM-Chem, the Japan Meteorological Agency's regional meteorology – chemistry model (v1.0): model description and aerosol representations, *Geosci. Model Dev. Discuss.*, <https://doi.org/10.5194/gmd-2018-128>, 2018. (This preprint was under review for the journal *Geosci. Model Dev.* but the revision was not accepted.)
12. **Kajino, M.** and 4 co-authors. Part B. Modeling II. Japan, 145-167, in Annual Report for the 16th year's Joint Research on Long-range Transboundary Air Pollutants in Northeast Asia, NIER, Incheon Korea, NIER-GP2016-032, 206 pp., 2016.
11. **Kajino, M.** NHM-Chem: Sensitivity of depositions to the size and hygroscopicity of Cs-bearing aerosols, in *Contribution of JMA to the WMO Technical Task Team on Meteorological Analyses for Fukushima Daiichi Nuclear Power Plant Accident and Relevant Atmospheric Transport Modeling at MRI*, Technical Reports of the Meteorological Research Institute, 76, 133-142, 2015.
10. **Kajino, M.** and 3 co-authors. Part II. Modeling (Japan), 15th Annual Report for the Long-range Transboundary Air Pollutants in Northeast Asia, NIER, Incheon Korea, 14 pp., 2015.
9. **Kajino, M.** Model formulation and predictability of a variety of atmospheric aerosols, Technical Reports of the Meteorological Research Institute, 68, 69-72, 2013.
8. **Kajino, M.** and 3 co-authors. Part II. Modeling part, Annual report 12th year's Joint Research on Long-range Transboundary Air Pollutants in Northeast Asia, NIER, Incheon Korea, 27 pp., 2012.
7. **Kajino, M.** and 3 co-authors. Part II. Modeling part, Annual report 11th year's Joint Research on Long-range Transboundary Air Pollutants in Northeast Asia, NIER, Incheon Korea, 32 pp., 2011.
6. **Kajino, M.** and 3 co-authors. Part II. Modeling part, Annual report 10th year's Joint Research on Long-range Transboundary Air Pollutants in Northeast Asia, NIER, Incheon Korea, 32 pp., 2010.
5. **Kajino, M.** and 4 co-authors. Part II. Modeling part, Annual report 9th year's Joint Research on Long-range Transboundary Air Pollutants in Northeast Asia, NIER, Incheon Korea, 58 pp., 2009.
4. **Kajino, M.** and 2 co-authors. Part II. Modeling part, Annual report 8th year's Joint Research on Long-range Transboundary Air Pollutants in Northeast Asia, NIER, Incheon Korea, 47 pp., 2008.
3. **Kajino, M.** H. Ueda, S. Nakayama, H. Ishikawa. Observational indications of indirect acidification in Asia:

- enhanced deposition of nitric acid gas expelled from the aerosol phase by sulfate, Annals of Disas. Prev. Res. Inst., Kyoto Univ., No.50C, 165-176, 2007.
2. **Kajino, M.**, Modeling liquid water content in atmospheric aerosols. International Institute for Applied Systems Analysis interim report, IR-03-046, 23 pp., 2003
 1. Ueda, H., H. Satsumabayashi, **M. Kajino**, Effects of Miyakejima volcanic effluents on airborne particles and precipitation in Central Japan. Annals of Disas. Prev. Res. Inst., Kyoto Univ., 46B, 487-502, 2003.

Research Grants (PI only)

Head

- 09/2024-10/2024 CONNECT Follow-up Programme, Alexander von Humboldt-Stiftung, “Understanding aerosol-cloud interaction processes using numerical simulations and mountain observations in Germany and Japan” (Short visit to Technische Universität Berlin).
- 08/2023-03/2029 Grant-in-Aid for Challenging Research (Pioneering) (JP23K17465), Japan Society for the Promotion of Science, “Design and development of a portable cloud chamber and understanding of mixed-phase microphysical and chemical processes of cloud particles by mountain observation”.
- 04/2023-03/2028 Grant-in-Aid for Scientific Research (S) (JP23H05494), Japan Society for the Promotion of Science, “Seamless understanding of nonlinear meteorology-chemistry processes based on multifaceted observations using low-altitude peaks”.
- 12/2019-11/2021 Grant-in-Aid for JSPS Research Fellow (19F19402), Japan Society for the Promotion of Science, “New assessment of environmental impacts of black carbon and dust by a mixing-state diversity metric”.
- 04/2019-03/2023 Grant-in-Aid for Scientific Research (A) (JP19H01155), Japan Society for the Promotion of Science, “Study on interaction between environmental pollution and meteorological changes via water substances”.
- 04/2017-03/2023 Fund for the Promotion of Joint International Research (Fostering Joint International Research) (JP16KK0018) “Aerosol cloud interaction study using cloud wind tunnel at the summit of an isolated mountain”. JSPS Scientist for Joint International Research, Laboratoire de Météorologie Physique (LaMP), Université Clermont Auvergne (UCA), Institut de Radioprotection et de Sûreté Nucléaire (IRSN), France
- 04/2016-03/2019 Environment Research & Technology Development Fund (5-1605), Ministry of Environment, in Japan, “Studies on PM2.5 composition, oxidative potential, health hazard and their model prediction”
- 04/2015-03/2017 Grant-in-Aid for Young Scientists (B), (B15K16121), Japan Society for the Promotion of Science, “Study on aerosol scavenging processes using simultaneous physical and chemical measurement of precipitation and a meteorology-chemistry model”.
- 09/2014-08/2016 Japan Society for the Promotion of Science (JSPS), Bilateral Programs (Joint Research Projects and Seminars) Japan-France (MAE) (SAKURA program), Institute for Radiological Protection and Nuclear Safety (IRSN) France, “Technology exchange on numerical modeling of atmospheric radionuclides discharged by nuclear accidents”
- 04/2011-03/2013 Postdoctoral Fellowship for Research Abroad, Japan Society for the Promotion of Science, “development of chemical meteorology model”.
- 04/2007-03/2010 Grant-in-Aid for Scientific Research from Ministry of Education, Culture, Sports, Science and Technology, in Japan, “numerical study on aerosol-cloud interaction”.
- 06/2004 Scholarship for young scientist 21st century COE programs of Disaster Prevention Research Institute, Kyoto University, “development of aerosol-cloud interaction modeling”.
- 04/2004-03/2006 Grant-in-Aid for Scientific Research from Ministry of Education, Culture, Sports, Science and Technology, in Japan, “observational and numerical study on aerosol-cloud interaction”.
- 06/2003 Scholarship of Kyoto University Education and Research Promotion Foundation, “study on environmental acidification and climate change”