Genki Katata

Curriculum Vita

PROFILE

Senior Research Fellow
The Canon Institute for Global Studies
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DATE AND PLACE OF BIRTH

6 February 1980, Tokyo, Japan

CAREER

Aug 2020-present: The Canon Institute for Global Studies, Senior research fellow
Aug 2020-present: Ibaraki University, Specially Assigned Research Fellow
Apr 2020-Jul 2020: Lecturer, Global and Local Environment Co-creation Institute (GLEC), Ibaraki University (Leading Initiative for Excellent Young Researchers from Japan Society for the Promotion of Science)
2017-2020: Lecturer, Institute for global Change Adaptation Science (ICAS), Ibaraki University (Leading Initiative for Excellent Young Researchers from Japan Society for the Promotion of Science)
2013-2015: Visiting scientist, Karlsruher Institut für Technologie, Germany (Overseas Research Fellowships from Japan Society for the Promotion of Science)
2005-2016: Researcher, Japan Atomic Energy Agency (JAEA), Japan
2004-2005: Researcher, Japan Atomic Energy Research Institute (JAERI), Japan

EDUCATION

2010: Ph.D., Kyoto University, Kyoto, Japan
2004: M.S. in Planetary and Space Sciences, Kyoto University, Kyoto, Japan
2002: B.S. in Aerospace Engineering, Nihon University, Chiba, Japan

DISSERTATION

March 2010: *Numerical study on atmosphere-land interactions in arid and semi-arid regions*, Doctor of Science, Ph.D, Kyoto University, Japan

RESEARCH INTERESTS

- Micrometeorology, hydrology, and material cycles in terrestrial ecosystems
- impacts of global warming, air pollution, and other anthropogenic (urban heat island, etc.) and natural stress factors (fog, dew, snow, heat, drought, etc.) on vegetation
- Process-based modeling for atmosphere-biosphere-hydrosphere systems
- Field experiments for dry/fog deposition in local and regional scales

HONORS AND AWARDS

1. Japan Association of Aerosol Science and Technology Paper Award, "Numerical analyses of transport processes of bioaerosol released from a temperate deciduous broad-leaved forest", 2021 (with K. Minami, K. Kita, A. Sorimachi, K. Hosaka, Y. Igarashi)
2. Best Research Team of the Year, Forum for Nuclear Cooperation in Asia (FNCA), Climate Change Science Project, Japan, 2020 (with the Climate Change Science Research Team, FNCA)
3. Japan Society for Atmospheric Environment Paper Award, "Deposition velocity of PM2.5 nitrate and gaseous nitric acid above a forest in suburban Tokyo using relaxed eddy accumulation with denuder sampling technique", 2019 (with T. Sakamoto, S. Nakahara, A. Takahashi, K. Matsuda)
4. 44th Atomic Energy Society of Japan Paper Award, "Preliminary estimation of release amounts of ^{131}I and ^{137}Cs accidentally discharged from the Fukushima Daiichi Nuclear Power Plant", 2012 (with M. Chino, H. Nakayama, H. Nagai, H. Terada, and H. Yamazawa)

RESEARCH GRANTS

1. Grant-in-Aid for Scientific Research for Scientific Research (A) (19H01155) from Ministry of Education, Culture, Sports, Science and Technology, Japan, "Study on interaction between environmental pollution and meteorological changes via water substances", April 2019—March 2023 (*head*: Dr. Mizuo Kajino).
2. Grant-in-Aid for Scientific Research (B) (17H01868) from Ministry of Education, Culture, Sports, Science and Technology, Japan, "Mechanisms on nitrogen saturation in forested headwater catchment and its impact on forest carbon accumulation", April 2017—March 2020.
3. Grant-in-Aid for Scientific Research for Scientific Research (B) (16H02933) from Ministry of Education, Culture, Sports, Science and Technology, Japan, "Deposition mechanisms for gaseous and particulate reactive nitrogen for evaluation of nitrogen load on ecosystems", April 2016—March 2019

(*head*: Dr. Kazuhide Matsuda).

4. Grant-in-Aid for Scientific Research for Scientific Research (C) (15K00530) from Ministry of Education, Culture, Sports, Science and Technology, Japan, "A development of estimation method about spatial variety of fog deposition amount on mountainous forest" , April 2016—March 2019 (*head*: Dr. Takashi Yamaguchi).
5. Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellowships for Research Abroad (22865), "Evaluation of effects of nitrogen load on forest ecosystems using a detailed land surface model", February 2012—April 2012, March 2013—February 2015.
6. Grant-in-Aid for Scientific Research on Innovative Areas (21120512) from Ministry of Education, Culture, Sports, Science and Technology, Japan, "Development of a sophisticated land surface model for impact assessments of acid substances on vegetation", April 2009—March 2011.
7. Grant-in-Aid for Scientific Research for Young Scientists B (21710035) from Ministry of Education, Culture, Sports, Science and Technology, Japan, "Development of a sophisticated land surface model for impact assessments of atmospheric aerosols on vegetation", April 2009—March 2011.

PUBLICATIONS

Peer-reviewed articles

1. N. Masada, T. Enomoto, **G. Katata**, N. Sakagami, Y. Suzuki, and S. Oikawa (2023) Competition between the invasive alien species *Solidago altissima* and the native Pueraria lobata in Japan, *Bot. Lett.*, DOI: 10.1080/23818107.2023.2225098.
2. **G. Katata**, T. Yamaguchi, M. Watanabe, K. Fukushima, M. Nakayama, H. Nagano, J. Koarashi, R. Tateno, and T. Kubota (2023) Atmospheric ammonia deposition and its role in a cool-temperate fragmented deciduous broad-leaved forest, *Atmos. Environ.*, 298, 119640.
3. **G. Katata**, M. Watanabe, S. Oikawa, A. Takahashi, T. Kubota, Y. Takase, T. Enomoto, N. Sakagami, Y. Suzuki, K. Fukushima and M.U. Ueda (2023) Evidence of NOx and O3 concentration reduction by kudzu (*Pueraria lobata*) invasion at a Japanese highway, *Atmos. Poll. Res.*, 14, 101644.
4. H. Nagano, M. Nakayama, **G. Katata**, K. Fukushima, T. Yamaguchi, M. Watanabe, T. Kondo, M. Atarashi-Andoh, T. Kubota, R. Tateno and J. Koarashi (2021) Soil microbial community responding to moderately elevated nitrogen deposition in a Japanese cool temperate forest surrounded by fertilized grasslands, *Soil Science and Plant Nutrition*, 67, 606-616.
5. **G. Katata**, A. Held (2021) Combined measurements of microscopic leaf wetness and dry-deposited inorganic compounds in a spruce forest, *Atmos. Poll. Res.*, 12, 217-224.
6. Y. Takase, S. Oikawa, T. Enomoto, **G. Katata** and N. Sakagami (2020) People's Attitude Towards Strategies to Control Kudzu (*Pueraria lobata (Willd.) Ohwi*), *Pap. Environ. Info. Sci.*, 34, 174-179 (in Japanese).
7. K. Minami, **G. Katata (corresponding author)**, K. Kita, A. Sorimachi, K. Hosaka, and Y. Igarashi (2020) Numerical analyses of transport processes of bioaerosol released from a temperate deciduous

broad-leaved forest, *Earozol Kenkyu*, 35, 208-218 (in Japanese with English abstract and figures).

8. T. Kubota, 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, and **G. Katata (corresponding author)** (2020) Role of advection in atmospheric ammonia: A case study at a Japanese lake basin influenced by agricultural ammonia sources, *Atmos. Environ.*, 243, 117856.
9. **G. Katata**, K. Matsuda, A. Sorimachi, M. Kajino, and K. Takagi (2020) Aerosol dynamics and gas-particle conversion in dry deposition of inorganic reactive nitrogen in a temperate forest, *Atmos. Chem. Phys.*, 20, 4933-4949.
10. **G. Katata**, R. Grote, M. Mauder, M.J. Zeeman, and M. Ota (2020) Wintertime grassland dynamics may influence below-ground biomass under climate change: a model analysis, *Biogeosci.*, 17, 1071-1085.
11. N. Imamura, **G. Katata**, M. Kajino, M. Kobayashi, Y. Itoh, and A. Akama (2020) 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, 11739.
12. R. Wada, M. Ueyama, A. Tani, T. Mochizuki, Y. Miyazaki, K. Kawamura, Y. Takahashi, N. Saigusa, S. Takanashi, T. Miyama, T. Nakano, S. Yonemura Y. Matsumi, and **G. Katata** (2019) Observation of vertical profiles of NOx, O3, and VOCs to estimate their sources and sinks by inverse modelling in a Japanese larch forest, *J. Agr. Meteorol.*, 76, 1-10.
13. S. Nakahara, K. Takagi, A. Sorimachi, **G. Katata**, and K. Matsuda (2019) Enhancement of dry deposition of PM2.5 nitrate in a cool-temperate forest, *Atmos. Environ.*, 212, 136-141.
14. M. Kajino, T.T. Sekiyama, Y. Igarashi, **G. Katata**, M. Sawada, K. Adachi, Y. Zaizen, H. Tsuruta, and T. Nakajima (2019) Deposition and dispersion of radio‐cesium released due to the Fukushima nuclear accident: Sensitivity to meteorological models and physical modules, *J. Geophys. Res. Atmos.*, 124, 1823-1845.
15. T. Kubota, **G. Katata (corresponding author)**, K. Fukushima, and H. Kuroda (2019) Impacts of atmospheric ammonia volatilized from the cattle feedlot on nitrogen deposition onto Japanese cypress canopy, *J. Jpn. Soc. Atmos. Environ.*, 54, 43-54 (in Japanese with English abstract and figures).
16. K. Saito, J. Mori, H. Machiya, S. Miyazaki, T. Ise, T. Sueyoshi, T. Yamazaki, Y. Iijima, H. Ikawa, K. Ichii, A. Ito, R. O'oishi, T. Oota, **G. Katata**, A. Kotani, T. Sasai, A. Sato, H. Sato, A. Sugimoto, R. Suzuki, K. Tanaka, T. Nitta, M. Niwano, E. Burke, H. Park, and S. Yamaguchi (2019) Energy-water budget analysis of an Arctic terrestrial models intercomparison GTMIP, *J. Jpn. Soc. Snow Ice*, 80, 159-174 (in Japanese with English abstract and figures).
17. M. Kadowaki, **G. Katata**, H. Terada, T. Suzuki, H. Hasegawa, N. Akata, and H. Kakiuchi (2018) Impacts of anthropogenic source from the nuclear fuel reprocessing plants on global atmospheric iodine-129 cycle: A model analysis, *Atmos. Environ.*, 184, 278-291.
18. T. Sakamoto, A. Nakahara, A. Takahashi, A. Sorimachi, **G. Katata**, and K. Matsuda (2018) Deposition velocity of PM2.5 nitrate and gaseous nitric acid above a forest in suburban Tokyo using relaxed eddy

accumulation with denuder sampling technique, *J. Jpn. Soc. Atmos. Environ.*, 53, 136-143 (in Japanese with English abstract and figures).

19. Y. Sanada, **G. Katata**, N. Kaneyasu, C. Nakanishi, Y. Urabe, and Y. Nishizawa (2018) Altitudinal characteristics of atmospheric deposition of aerosols in mountainous regions: Lessons from the Fukushima Daiichi Nuclear Power Station accident, *Sci. Total Environ.*, 618, 881-890.
20. **G. Katata**, and M. Chino (2017) Source term, atmospheric dispersion, and deposition of radionuclides during the Fukushima Daiichi nuclear power station accident, *Earozol Kenkyu*, 32, 237-243 (in Japanese with English abstract and figures).
21. M. Kadowaki, H. Nagai, H. Terada, **G. Katata**, and S. Akari (2017) Improvement of atmospheric dispersion simulation using an advanced meteorological data assimilation method to reconstruct the spatiotemporal distribution of radioactive materials released during the Fukushima Daiichi Nuclear Power Station accident, *Energy Procedia*, 131C, 208-215.
22. M. Kadowaki, **G. Katata**, H. Terada, and H. Nagai (2017) Development of the Eulerian atmospheric transport model GEARN-FDM: Validation against the European tracer experiment. *Atmos. Poll. Res.*, 8, 394-402.
23. E. Quansah, **G. Katata**, M. Mauder, T. Annor, L.K. Amekudzi, J. Bliefernicht, D. Heinzeller, A.A. Balogun, and H. Kunstmann (2017) Numerical simulation of surface energy and water balances over a semiarid grassland ecosystem in the west African savanna. *Adv. Meteorol.*, 2017, 6258180.
24. A.G. Duarte, **G. Katata**, Y. Hoshika, M. Hossain, J. Kreuzwiesser, A. Arneth, and N.K. Ruehr (2016) Immediate and potential long-term effects of consecutive heat waves on the photosynthetic performance and water balance in Douglas-fir. *J. Plant. Physiol.*, 205, 57-66.
25. Chino, M., H. Terada, H. Nagai, **G. Katata**, S. Mikami, T. Torii, K. Saito, and Y. Nishizawa (2016) Utilization of $^{134}Cs/^{137}Cs$ in the environment to identify the reactor units that caused atmospheric releases during the Fukushima Daiichi accident. *Sci. Rep.*, 6, 31376.
26. M. Ota, **G. Katata**, H. Nagai, and H. Terada (2016) Impacts of C-uptake by plants on the spatial distribution of 14C accumulated in vegetation around a nuclear facility – Application of a sophisticated land surface 14C model to the Rokkasho reprocessing plant, Japan. *J. Environ. Radioact.*, 162-163, 189-204.
27. A.R. Desai, G. Wohlfahrt, M.J. Zeeman, **G. Katata**, W. Eugster, L. Montagnani, D. Gianelle, M. Mauder, and H.-P. Schmid (2016) Ecosystem biogeochemistry in the north and central Alps responds strongly to global circulation changes and Foehn frequency. *Environ. Res. Lett.*, 11, 024013.
28. H. Nagai, H. Terada, M. Chino, **G. Katata**, S. Mikami, and K. Saito (2015) Source term estimation for the Fukushima Daiichi Nuclear power station accident by combined analysis of environmental monitoring and plant data through atmospheric dispersion simulation. *Proc. 16th Int. Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-16)*, 4044-4052.
29. Y. Hoshika, **G. Katata**, M. Deushi, M. Watanabe, T. Koike, and E. Paoletti (2015) Ozone-induced stomatal sluggishness changes carbon and water balance of temperate deciduous forests. *Sci. Rep*., 5, 9871.

30. **G. Katata**, M. Chino, T. Kobayashi, H. Terada, M. Ota, H. Nagai, M. Kajino, R. Draxler, M.C. Hort, A. Malo, T. Torii, and Y. Sanada (2015) 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.
31. **G. Katata** (2014) Fogwater deposition modeling for terrestrial ecosystems: A review of developments and measurements. *J. Geophys. Res.*, 119, 8137-8159 (review paper).
32. T. Yamaguchi, **G. Katata**, I. Noguchi, S. Sakai, Y. Watanabe, Y. Uematsu, and M. Furutani (2014) Long-term observation of fog chemistry and estimation of fog water and nitrogen input via fog water deposition at a mountainous site in Hokkaido, Japan. *Atmos. Res.*, 151, 82-92.
33. **G. Katata**, M. Kajino, K. Matsuda, A. Takahashi, and K. Nakaya (2014) A numerical study of the effects of aerosol hygroscopic properties to dry deposition on a broad-leaved forest. *Atmos. Environ.*, 97, 501-510.
34. **G. Katata**, and N. Murao (2014) An application of a sophisticated land surface model for impact assessments of aerosols on vegetation to regional scale analysis. *Earozoru Kenkyu*, 29, 168-175 (in Japanese with English abstract and figures).
35. Y. Watanabe, T. Yamaguchi, and **G. Katata** (2014) Aerosol deposition and the behavior of aerosol particles deposited on the foliar surfaces of trees in cool-temperate forests in Hokkaido. *Earozoru Kenkyu*, 29, 176-182 (in Japanese with English abstract and figures).
36. **G. Katata**, K. Hayashi, K. Ono, H. Nagai, A. Miyata, and M. Mano (2013) Coupling atmospheric ammonia exchange process over a rice paddy field with a multi-layer atmosphere-soil-vegetation model. *Agr. Forest Meteorol.*, 180, 1-21.
37. **G. Katata**, T. Yamaguchi, H. Sato, Y. Watanabe, I. Noguchi, H. Hara, and H. Nagai (2013) Aerosol deposition and behavior on leaves in cool-temperate deciduous forests. Part 3: Estimation of fog deposition onto cool-temperate deciduous forest by the inferential method. *Asian J. Atmos. Environ.*, 7, 17-24.
38. Y. Watanabe, T. Yamaguchi, **G. Katata**, and I. Noguchi (2013) Aerosol deposition and behavior on leaves in cool-temperate deciduous forests. Part 1: A preliminary study of the effect of fog deposition on behavior of particles deposited on the leaf surfaces by microscopic observation and leaf-washing technique. *Asian J. Atmos. Environ.*, 7, 1-7.
39. Y. Watanabe, T. Yamaguchi, I. Noguchi, **G. Katata**, A. Wakamatsu, and T. Kawaida (2013) Measurement of aerosol composition and observation of aerosol particles deposited on leaf surface of forest trees in Hokkaido. *Boreal For. Res.*, 61, 85-86 (in Japanese).
40. T. Yamaguchi, I. Noguchi, Y. Watanabe, **G. Katata**, H. Sato, and H. Hara (2013) Aerosol deposition and behavior on leaves in cool-temperate deciduous forests. Part 2: Characteristics of fog water chemistry and fog deposition in northern Japan. *Asian J. Atmos. Environ.*, 7, 8-16.
41. M. Chino, H. Terada, **G. Katata**, H. Nagai, H. Nakayama, H. Yamazawa, S. Hirao, T. Ohara, M. Takigawa, H. Hayami, and M. Aoyama (2012) Reconstruction of atmospheric releases of 131I and

137Cs by the Fukushima Daiichi Nuclear Power Plant Accident. *Proc. 1st NIRS symp. "Reconstruction of Early Internal Dose in the TEPCO Fukushima Daiichi Nuclear Power Station Accident"*, 127-136.

42. H. Nagai, M. Chino, H. Terada, and **G. Katata** (2012) Atmospheric dispersion simulations of radioactive materials discharged from the Fukushima Daiichi Nuclear Power Plant due to accident: Consideration of deposition process. *Proc. 1st NIRS symp. "Reconstruction of Early Internal Dose in the TEPCO Fukushima Daiichi Nuclear Power Station Accident"*, 137-150.
43. M. Kajino, Y. Inomata, K. Sato, H. Ueda, Z. Han, J. An, **G. Katata**, M. Deushi, T. Maki, N. Oshima, J. Kurokawa, T. Ohara, A. Takami, and S. Hatakeyama (2012) Development of an aerosol chemical transport model RAQM2 and predictions of Northeast Asian aerosol mass, size, chemistry, and mixing type. *Atmos. Chem. Phys.*, 12, 11833-11856.
44. **G. Katata**, H. Terada, H. Nagai, and M. Chino (2012) Numerical reconstruction of high dose rate zones due to the Fukushima Dai-ichi Nuclear Power Plant accident. *J. Environ. Radioact.*, 111, 2-12.
45. **G. Katata**, M. Ota, H. Terada, M. Chino, and H. Nagai (2012) Atmospheric discharge and dispersion of radionuclides during the Fukushima Dai-ichi Nuclear Power Plant accident. Part I: Source term estimation and local-scale atmospheric dispersion in early phase of the accident. *J. Environ. Radioact.*, 109, 103-113.
46. H. Terada, **G. Katata**, M. Chino, and H. Nagai (2012) Atmospheric discharge and dispersion of radionuclides during the Fukushima Dai-ichi Nuclear Power Plant accident. Part II: verification of the source term and analysis of regional-scale atmospheric dispersion. *J. Environ. Radioact.*, 112, 141-154.
47. M. Chino, H. Nakayama, H. Nagai, H. Terada, **G. Katata**, and H. Yamazawa (2011) Preliminary estimation of release amounts of 131I and 137Cs accidentally discharged from the Fukushima Daiichi Nuclear Power Plant into the atmosphere. *J. Nucl. Sci. Technol.*, 48, 1129-1134.
48. **G. Katata**, M. Kajino, T. Hiraki, M. Aikawa, T. Kobayashi, and H. Nagai (2011) A method for simple and accurate estimation of fog deposition in a mountain forest using a meteorological model. *J. Geophys. Res. Atmos.*, 116, D20102.
49. **G. Katata**, H. Nagai, L. Zhang, A. Held, D. Serça, and O. Klemm (2011) Development of an atmosphere-soil-vegetation model for investigation of radioactive materials transport in the terrestrial biosphere. *Prog. Nucl. Sci. Technol.*, 2, 530-537.
50. **G. Katata**, H. Nagai, M. Kajino, H. Ueda, and Y. Hozumi (2010) Numerical study of fog deposition on vegetation for atmosphere-land interactions in semi-arid and arid regions. *Agr. Forest Meteorol.*, 150, 340-353.
51. **G. Katata**, and H. Nagai (2010) Recent trend and problems in modeling particle deposition onto vegetation. *Earozoru Kenkyu*, 25, 323-330 (in Japanese with English abstract and figures).
52. **G. Katata**, C.M. Regalado, A. Ritter, and H. Nagai (2009) Application of a land surface model that includes fog deposition over a tree heath–laurel forest in Garajonay national park (La Gomera, Spain). *Estudios de la zona no saturada del Suelo (Studies of the Vadose Zone), ZNS'09. IX*, 393-400 (available online).
53. **G. Katata**, H. Nagai, T. Wrzesinsky, O. Klemm, W. Eugster, and R. Burkard (2008) Development of a

land surface model including cloud water deposition on vegetation. *J. Appl. Meteorol. Climatol.*, 47, 2129-2146.

54. **G. Katata**, H. Nagai, and H. Ueda (2007) Numerical study of fog occurrence and fog water deposition on the vegetation at a semi-arid coastal area in Saudi Arabia. *Proc. 4th International Conference on Fog, Fog Collection and Dew*, 33-36.
55. **G. Katata**, H. Nagai, H. Ueda, N. Agam, and P.R. Berliner (2007) Development of a land surface model including evaporation and adsorption processes in the soil for the land-air exchange in arid regions. *J. Hydrometeorol.*, 8, 1307-1324.

Books

1. K. Hayashi, K. Ono, T. Tokida, M. Matsushima, M. Yano, S. Toyoda, **G. Katata**, N. Katayanagi, T. Fumoto, H. Nakamura, T. Hasegawa (2020) Nitrogen Aspects of the Free-Air CO_2 Enrichment (FACE) Study for Paddy Rice Ecosystems. In: *Just Enough Nitrogen: Perspectives on how to get there for regions with too much and too little nitrogen*, Springer, 331-340.
2. Nagai, H., **G. Katata**, H. Terada, and M. Chino (2014) Source Term Estimation of 131I and 137Cs Discharged from the Fukushima Daiichi Nuclear Power Plant into the Atmosphere. Takahashi, S. Ed.: *Radiation Monitoring and Dose Estimation of the Fukushima Nuclear Accident*, Springer, 155-173.

Non peer-reviewed articles

1. **Katata, G.** and M. Ota (2017) A terrestrial ecosystem model (SOLVEG) coupled with atmospheric gas and aerosol exchange processes. JAEA-Data/Code 2016-014, Japan Atomic Energy Agency, 35 pp.
2. **Katata, G.** (2013) Coupled modeling system for prediction of radioactive material transport in the atmospheric, terrestrial, and oceanic environment. *Ionizing Radiation*, 39, 3-6 (in Japanese with English abstract).
3. Kondo, H., T. Yamada, M. Chino, T. Iwasaki, **G. Katata**, T. Maki, K. Saito, H. Terada, and H. Tsuruta, (2013) Report of the special symposium on the transport and diffusion of contaminants from the Fukushima Dai-Ichi Nuclear Power Plant: Present status and future directions. *Tenki*, 60, 723-729 (in Japanese).
4. **Katata, G.** (2009) Improvement of a land surface model for accurate prediction of surface energy and water balances. JAEA-Data/Code 2008-033, Japan Atomic Energy Agency, 64 pp.
5. Okochi, H., and **G. Katata** (2009) Atmospheric Deposition -3. Cloud water and Fog deposition–. *J. Jpn Soc. Atmos. Environ.*, 45, A1-A12 (in Japanese).