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## CURRICULUM VITAE

### **Eiichi Tajika**

Professor of Earth and Planetary System Science  
Department of Complexity Science and Engineering  
Graduate School of Frontier Sciences  
The University of Tokyo  
5-1-5 Kashiwanoha, Kashiwa-shi, Chiba 277-8561, Japan

#### [1] PERSONAL DATA

Birth date: April 9, 1963

#### [2] EDUCATION (DEGREES RECEIVED)

1987 Bachelor of Science, Geophysical Institute, University of Tokyo  
1989 Master of Science, Geophysical Institute, University of Tokyo  
1992 Doctor of Science, Geophysical Institute, University of Tokyo

#### [3] PROFESSIONAL EXPERIENCE

1992-1993 Postdoctoral Fellow, Center for Climate System Research, University of Tokyo  
1993-2002 Research Associate, Geological Institute, University of Tokyo  
2002-2010 Associate Professor, Department of Earth and Planetary Science, Graduate School of Science, University of Tokyo  
2005- Chief Editor, Japan Geoscience Letters, Japan Geoscience Union  
2008-2010 Senior Scientific Research Specialist, Ministry of Education, Culture, Sports, Science and Technology (MEXT) in Japan  
2008-2014 Director, Japan Geoscience Union  
2010- Professor, Department of Complexity Science and Engineering, Graduate School of Complexity Science and Engineering, University of Tokyo  
2011-2012 Vice President, The Japanese Society for Planetary Sciences  
2013-2014 President, The Japanese Society for Planetary Sciences  
2013-2015 Member, the Committee on National Space Policy, Cabinet Office, Government of Japan  
2013- Visiting Professor, Astrobiology Center, National Institute of Natural Sciences  
2015- Head of Department of Complexity Science and Engineering, Graduate School of Complexity Science and Engineering, University of Tokyo

[4] HONORS AND AWARDS

- 1992 JSPS Postdoctoral Fellowship (Japan Society for the Promotion of Science)
- 2003 Yamazaki Award (Yamazaki Award Foundation)
- 2007 Horiuchi Award (Meteorological Society of Japan)

[5] MEMBERSHIP IN ACADEMIC SOCIETIES

- American Geophysical Union (AGU)
- Geological Society of America (GSA)
- Japan Geoscience Union (JpGU)
- The Japanese Society for Planetary Sciences (JSPS)
- Meteorological Society of Japan
- The Seismological Society of Japan
- Paleosciences Society

[6] COMMITTEES AND OTHER PROFESSIONAL ACTIVITIES (SELECTED)

- Steering Committee Member of Japanese Society for Planetary Sciences (1997- )
- Editor of the Journal of Japanese Society for Planetary Sciences (1997-2006)
- Organizing Committee for Japanese-American Frontiers of Science Symposium (U.S. National Academy of Science & Japan Society for Promotion of Science) (2000-2001)
- Organizing Committee for International Symposium on Astrobiology in Tokyo (2003)
- Organizing Committee for International Symposium on Origins of Life and Astrobiology (2004-2005)
- Steering Committee Member of JpGU (2000-2008)
- Director of JpGU (2008-2014)
- Chair of Publicity and Outreach Committee of JpGU (2005- )
- Chief Editor of Japan Geoscience Letters (JGL) of JpGU (2005- )
- External Review Committee of Department of Earth and Planetary Science, Tokyo Institute of Technology (2007)
- Visiting Professor, The Open University of Japan (2007- )
- Member of Japan Earth Science Olympiad Committee (2008- )
- Union Science Board Member of JpGU (2008- )
- Science Board Member of Space and Planetary Science Section, JpGU (2013- )
- Senior Scientific Research Specialist, Ministry of Education, Culture, Sports, Science and Technology (MEXT) in Japan (2008-2010)
- External Review Committee of Global COE Program “From Earth to Earths”, Tokyo Institute of Technology (2010)

Convener of Astrobiology International Session in JpGU Annual Meeting (2010- )  
Vice-President of Japanese Society for Planetary Sciences (2011-2012, 2015-2016)  
President of Japanese Society for Planetary Sciences (2013-2014)  
Member of Committee on National Space Policy, Cabinet Office, Government of  
Japan (2013-2015)  
Visiting Professor, Astrobiology Center, National Institute of Natural Sciences  
(2013- )  
External Review Committee of Faculty of Science, Kyushu University (2013-2014)  
Organizing Committee for International Symposium on Multidisciplinary Sciences  
on the Earth (ISMS) in Tokyo (2014)  
Chair of the Presidential Assembly of the Member Societies of JpGU (2014)  
Director of the 2015 JpGU Meeting (2015)

#### [7] COURSE INSTRUCTION

Evolution of Earth and Planetary Environments  
Evolution of Earth and Planetary Systems  
Introduction to Deep Space Exploration  
Exercise of Earth and Planetary Environmental Science I  
Exercise of Earth and Planetary Environmental Science II  
Geochemical Cycles  
Earth History  
Earth System Evolution  
Earth and Planetary Environmental Science

#### [8] ADVISOR OF STUDENTS

Advisor of 11 undergraduate students  
Advisor of 30 master course students  
Advisor of 12 doctor course students

#### [9] TEACHING OUTSIDE OF THE UNIVERSITY OF TOKYO

Kitazato University (1994-1997), Tokyo Metropolitan University (1998), Nagoya  
University (2000), Kanazawa University (2003), Tokyo Gakugei University (2005,  
2007, 2009, 2011), Kobe University (2005, 2013), The Open University of Japan  
(2007-), Tohoku University (2009), Iwate University (2009), Osaka University (2010),  
Tsukuba University (2011), Kyushu University (2013), Toyama University (2013),  
The Graduate University for Advanced Studies (2013, 2014)

[10] LIST OF PUBLICATIONS

A) Refereed papers (\*my graduate students)

1. **Tajika, E.** and Matsui T. (1990) The evolution of the terrestrial environment, In *Origin of the Earth* (H. E. Newsom and J. H. Jones eds.), pp. 347-370, Oxford Univ. Press, New York, N.Y., 378pp.
2. **Tajika, E.** and Matsui, T. (1992) Evolution of terrestrial proto-CO<sub>2</sub>-atmosphere coupled with thermal history of the Earth, *Earth and Planetary Science Letters*, **113**, 251-266.
3. **Tajika, E.** and Matsui, T. (1993) Degassing history and carbon cycle: From an impact-induced steam atmosphere to the present atmosphere, *Lithos*, **30**, 267-280.
4. **Tajika, E.** and Matsui, T. (1993) Evolution of seafloor spreading rate based on <sup>40</sup>Ar degassing history, *Geophysical Research Letters*, **20**, 851-854.
5. Sasaki, S. and **Tajika, E.** (1995) Evolution of volcanic activities on Venus and Mars from noble gas degassing, *Journal of Seismological Society of Japan*, **48**, 119-129. (in Japanese with English abstract)
6. Sasaki, S. and **Tajika, E.** (1995) Degassing history and evolution of volcanic activities of terrestrial planets based on radiogenic noble gas degassing models, In *Volatiles in the Earth and Solar System* (Farley, K. A. edit), pp. 186-199, American Institute of Physics, New York, 290pp.
7. **Tajika, E.** and Sasaki, S. (1996) Magma generation on Mars constrained from an <sup>40</sup>Ar degassing model, *Journal of Geophysical Research*, **101**, 7543-7554.
8. **Tajika, E.** (1996) Behaviours of water in the origin and evolution of the Earth, *Journal of Mineralogical Society of Japan*, **25**, 151-161. (in Japanese with English abstract)
9. Yamanaka, Y. and **Tajika, E.** (1996) The role of the vertical fluxes of particulate organic matter and calcite in oceanic carbon cycle: Studies using an ocean biogeochemical general circulation model, *Global Biogeochemical Cycles*, **10**, 361-382.
10. Yamanaka, Y. and **Tajika, E.** (1997) The role of dissolved organic matter in the marine biogeochemical cycle: Studies using an ocean biogeochemical general circulation model, *Global Biogeochemical Cycles*, **11**, 599-612.
11. **Tajika, E.** (1998) Climate change during the last 150 million years: Reconstruction from a carbon cycle model, *Earth and Planetary Science Letters*, **160**, 695-707.
12. **Tajika, E.** (1998) Mantle degassing of major and minor volatile elements during the Earth's history, *Geophysical Research Letters*, **25**, 3991-3994.

13. **Ikeda, T.\***, and **Tajika, E.** (1999) A study of the energy balance climate model with CO<sub>2</sub>-dependent outgoing radiation: implication for the glaciation during the Cenozoic, *Geophysical Research Letters*, **26**, 349-352.
14. **Tajika, E.** (1999) Carbon cycle and climate change during the Cretaceous inferred from a carbon biogeochemical cycle model, *The Island Arc*, **8**, 293-303.
15. **Tajika, E.** (1999) Continuous degassing and climate stability during the Earth's history: constraints from a carbon geochemical cycle model, *Journal of the Geochemical Society of Japan (Geochemistry)*, **33**, 255-263. (in Japanese with English abstract)
16. Yamakita, S., Kadota, N., Kato, T., Tada, R., Ogihara, S., **Tajika, E.**, and Hamada, Y. (1999) Confirmation of the Permian/Triassic boundary in deep-sea sedimentary rocks: Earliest Triassic conodonts from black carbonaceous claystone of the Ubara section in the Tamba Belt, Southwest Japan. *Journal of Geological Society of Japan*, **105**, 895-898.
17. Takayama, H., Tada, R., Matsui, T., Iturralde-Vinent, M. A., Oji, T., **Tajika, E.**, Kiyokawa, S., Garcia, D., Okada, H., Hasegawa, T., and Toyoda, K. (2000) Origin of the Formation in northwestern Cuba and its relation to K/T boundary impact event, *Sedimentary Geology*, **135**, 295-320.
18. **Nakamura, T.\***, and **Tajika, E.** (2001) Stability and evolution of the Martian climate, *Earth, Planets and Space*, **53**, 851-859.
19. **Nakamura, T.\***, and **Tajika, E.** (2001) The Martian climate system: its stability and evolution, *Journal of Japanese Society of Planetary Science*, **10**, 192-201. (in Japanese)
20. **Tajika, E.** (2002) The snowball Earth phenomena, *Journal of Japanese Society of Planetary Science*, **11**, 5-12. (in Japanese)
21. **Goto, K.\***, **Tajika, E.**, Tada, R., Matsui, T., Takayama, H., Iturrade-Vinent, M.A., Nakano, Y., Yamamoto, S., Kiyokawa, S., and Oji, M. (2002) Sedimentary Structure of the Deep-Sea Tsunami Deposit and Its Variation with Depth, *Proceedings of Coastal Engineering (JSCE)*, **49**, 286-290. (in Japanese with English abstract)
22. **Ikeda, T.\***, **Tajika, E.**, and Tada, R. (2002) Carbon cycle during the last 315,000 years: reconstruction from a marine carbon cycle model, *Global and Planetary Change*, **33**, 1-13.
23. Matsui, T., Imamura, F., **Tajika, E.**, Nakano, Y., and Fujisawa, Y. (2002) Generation and propagation of a tsunami from the Cretaceous/Tertiary impact event, In *Catastrophic Events and Mass Extinctions: Impacts and Beyond* (Koeberl C., and MacLeod, K. G. eds.), *Geological Society of America Special Paper*, **356**, 69-78, 746pp.
24. Tada, R., Nakano, Y., Iturralde-Vinent, M., Yamamoto, S., Kamata, T., Toyoda, K.,

- Tajika, E.**, Kiyokawa, S., Gracia, D., Oji, T., **Goto, K.\***, Takayama, H., Rojas, R., and Matsui, T. (2002) Complicated tsunami waves suggested by the Cretaceous/Tertiary boundary deposit at Moncada section, western Cuba, In *Catastrophic Events and Mass Extinctions: Impacts and Beyond* (Koeberl C., and MacLeod, K. G. eds.), *Geological Society of America Special Paper*, **356**, 109-124, 746pp.
25. Kiyokawa, S., Tada, R., Iturralde-Vinent, M., Matsui, T., **Tajika, E.**, Gracia, D., Yamamoto, S., Oji, T., Nakano, Y., **Goto, K.\***, Takayama, H., and Rojas, R. (2002) More than 700 m thick K/T boundary sequence of the Cacarajicara Formation, Western Cuba. Ejecta induced high-energy flow deposit, In *Catastrophic Events and Mass Extinctions: Impacts and Beyond* (Koeberl C., and MacLeod, K. G. eds.), *Geological Society of America Special Paper*, **356**, 125-144, 746pp.
26. **Nakamura, T.\***, and **Tajika, E.** (2002) Stability of the Martian climate system under the seasonal change condition of solar radiation, *Journal of Geophysical Research*, **107**(E11), 10.1029/2001JE001561.
27. **Ikeda, T.\***, and **Tajika, E.** (2002) Carbon cycling and climate change during the last glacial cycle inferred from the isotope records using an ocean biogeochemical carbon cycle model, *Global and Planetary Change*, **35**, 131-141.
28. **Nakamura, T.\***, and **Tajika, E.** (2003) Climate change of Mars-like planets due to obliquity variations: implications for Mars, *Geophysical Research Letters*, **30**(13), 1685, doi:10.1029/2002GRL016725.
29. **Tajika, E.** and Yamanaka, Y. (2003) Earth system variations during the Cretaceous, *Journal of Palaeontological Society of Japan (Fossils)*, **74**, 25-33. (in Japanese with English abstract)
30. **Tajika, E.** (2003) Faint young Sun and the carbon cycle: Implication for the Proterozoic global glaciations, *Earth and Planetary Science Letters*, **214**(3-4), 443-453.
31. Tada, R., Iturralde-Vinent, M. A., Matsui, T., **Tajika, E.**, Oji, T., **Goto, K.\***, Nakano, Y., Takayama, H., Yamamoto, S., Kiyokawa, S., Toyoda, K., Garcia-Delgado, D., Diaz-Otero, C., and Rojas-Consuegra, R. (2003) K/T boundary deposits in the Paleo-western Caribbean basin, in C. Bartolini, R. T. Buffler, and J. Blickwede, eds., *The Circum-Gulf of Mexico and the Caribbean: Hydrocarbon habitats, basin formation, and plate tectonics: AAPG Memoir*, **79**, 582-604.
32. **Goto, K.\***, Tada, R., **Tajika, E.**, Bralower T. J., Hasegawa T., and Matsui T. (2004) Evidence for ocean water invasion into the Chicxulub crater at the Cretaceous/Tertiary boundary, *Meteoritics & Planetary Science*, **39**, 1233-1247.
33. **Tajika, E.** (2004) Analysis of carbon cycle system during the Neoproterozoic: Implication for snowball Earth events, In *The Extreme Proterozoic: Geology, Geochemistry, and Climate* (Jenkins, G., McMenamin, M., Sohl, L., and McKay, C.

- eds.), *Geophysical Monograph Series*, **146**, 45-54, American Geophysical Union, 220pp.
34. **Goto, K.\***, **Tajika, E.**, Tada, R., and Matsui, T. (2004) Formation of a large oceanic impact crater and generation of impact tsunamis at the Cretaceous/Tertiary boundary, *Journal of Japanese Society of Planetary Science*, **13**, 241-248. (in Japanese)
  35. **Kurahashi-Nakamura, T.\***, and **Tajika, E.** (2005) Evolution of the climate of Mars: effects of ice sheets, *Journal of Japanese Society of Snow and Ice*, **67**, 133-145. (in Japanese with English abstract)
  36. Isaac A. H., Kirschvink, J. L., **Tajika, E.**, Tada, R., Hamano, Y., and Yamamoto, S. (2005) A negative fold test on the Lorrain Formation of the Huronian Supergroup: Uncertainty on the paleolatitude of the Paleoproterozoic Gowganda glaciation and implications for the great oxygenation event, *Earth and Planetary Science Letters*, **232**, 315-332.
  37. **Kurahashi-Nakamura, T.\***, and **E. Tajika** (2006) Atmospheric collapse and transport of carbon dioxide into the subsurface on early Mars, *Geophysical Research Letters*, **33**, L18205, doi:10.1029/2006GL027170.
  38. **Matsuoka, K.\***, **Tajika, E.**, Tada, R., and Matsui, T. (2007) Carbon cycle during the Paleocene/Eocene thermal maximum: Reconstruction from a marine biogeochemical carbon cycle model, *Journal of Geography*, **115**, 715-726. (in Japanese with English abstract)
  39. **Tajika, E.** (2007) Long-term stability of climate and global glaciations throughout the evolution of the Earth, *Earth, Planets, and Space*, **59**, 293-299.
  40. **Tajika, E.** (2007) Snowball Earth events and evolution of life, *Journal of Geography*, **116**, 79-94. (in Japanese with English abstract)
  41. **Goto, K.\***, Tada, R., **Tajika, E.**, Matsui, T., Yamamoto, S., Nakano, Y., Oji, T., Kiyokawa, S., Gracia-Delgado, D. E., Otero, C. D., Consuegra, R. R. (2008) Lateral lithological compositional variations of the Cretaceous/Tertiary deep-sea tsunami deposits in northwestern Cuba, *Cretaceous Research*, **29**, 217-236.
  42. **Goto, K.\***, Tada, R., **Tajika, E.**, and Matsui, T. (2008) Deep-sea tsunami deposits in the proto-Caribbean sea at the Cretaceous/Tertiary boundary, In *Tsunamiites - Features and implications* (Shiki, T., Tsuji, Y., Yamazaki, T., and Minoura, K. eds.), 251-276, Elsevier, 432pp.
  43. **Tajika, E.** (2008) Snowball planets as a possible type of water-rich terrestrial planets in the extrasolar planetary system, *The Astrophysical Journal*, **680**, L53-L56.
  44. Nakano, Y., **Goto, K.\***, Matsui, T., Tada, R., and **Tajika, E.** (2008) PDF orientations in shocked quartz grains around the Chicxulub crater, *Meteoritics & Planetary*

- Science*, **43**, 745-760.
45. **Tajika, E.** (2008) Theoretical constraints on early Earth's environment, *Viva Origino*, **36**, 55-60.
  46. Yamamoto, A., Yamanaka, Y., and **Tajika, E.** (2009) Modeling of methane bubbles released from large sea-floor area: Condition required for methane emission to the atmosphere, *Earth and Planetary Science Letters*, **284**, 590-598.
  47. Misumi, K., Yamanaka, Y., and **Tajika, E.** (2009) Numerical simulation of atmospheric and oceanic biogeochemical cycles to an episodic CO<sub>2</sub> release event: implications for the cause of mid-Cretaceous Ocean Anoxic Event-1a, *Earth and Planetary Science Letters*, **286**, 316-323.
  48. Sekine, Y., **Tajika, E.**, Ohkouchi, N., Ogawa, N.O., **Goto, K.\***, Tada, R., Yamamoto, S., and Kirschvink, J.L. (2010) Anomalous negative excursion of carbon isotope in organic carbon after the last Paleoproterozoic glaciation in North America, *Geochemistry Geophysics Geosystems*, **11**, Q08019, doi:10.1029/2010GC003210.
  49. Oka, A., **Tajika, E.**, Abe-Ouchi, A., and **Kubota, K.\*** (2010) Role of the ocean in controlling atmospheric CO<sub>2</sub> concentration in the course of global glaciations, *Climate Dynamics* DOI 10.1007/s00382-010-0959-z.
  50. **Ozaki, K.\***, **Tajima, S.\***, and **Tajika, E.** (2011) Conditions required for oceanic anoxia/euxinia: Constraints from a one-dimensional ocean biogeochemical cycle model, *Earth and Planetary Science Letters*, **204**, 270-279. doi:10.1016/j.epsl.2011.02.011.
  51. Sekine, Y., **Tajika, E.**, Tada, R., **Hirai, T.\***, **Goto, K.T.\***, Kuwatani, T., **Goto, K.\***, Yamamoto, S., Tachibana, S., Isozaki, Y. and Kirschvink, J.L. (2011) Manganese enrichment in the Gowganda Formation of the Huronian Supergroup: A highly oxidizing shallow-marine environment after the last Huronian glaciation, *Earth and Planetary Science Letters*, **307**, 201-210, 2011. doi:10.1016/j.epsl.2011.05.001.
  52. Kashiwayama, Y., **Ozaki, K.\***, and **Tajika, E.** (2011) Impact of the evolution of carbonate ballasts on marine biogeochemistry in the Mesozoic and associated changes in energy delivery to subsurface waters, *Paleontological Research*, **15**, 89-99
  53. **Goto, K.\***, and **Tajika, E.** (2011) Mass Extinction caused by an Extraterrestrial Impact -Why was it happened only at the Cretaceous/Paleogene boundary?-, *Journal of Geological Society of Japan*, **117**, 193-203. (in Japanese with English abstract)
  54. Sekine, Y. Suzuki, K.. Senda, R., **Goto, K. T.\***, **Tajika, E.**, Tada, R., **Goto, K.\***, Yamamoto, S., Ohkouchi, N., Ogawa, N. O., and Maruoka, T. (2011) Osmium evidence for synchronicity between a rise in O<sub>2</sub> and Palaeoproterozoic deglaciation, *Nature Communications* **2:502** doi: 10.1038/ncomms1507.



55. Sakuma, H., R. Tada, M. Ikeda, Y. Kashiyama, N. Ohkouchi, N. O. Ogawa, S. Watababe, **E. Tajika**, and S. Yamamoto (2012) High-resolution lithostratigraphy and organic carbon isotope stratigraphy of the Lower Triassic pelagic sequence in central Japan, *The Island Arc*, **21**, 79-100.
56. Kamata, S., Sugita, S., Abe, Y., Ishihara, Y., Harada, Y., Morota, T., Namiki, N., Iwata, T., Hanada, H., Araki, H., Matsumoto, K., and **Tajika, E.** (2013) Viscoelastic deformation of lunar impact basins: Implications for heterogeneity in the deep crustal paleo-thermal state and radioactive element concentration, *Journal of Geophysical Research*, **118**, 398-415, doi:10.1002/jgre.20056.
57. **Ozaki, K.\*** and **Tajika, E.** (2013) Long-term biogeochemical effects of atmospheric oxygen concentration and sea-level stand on oceanic redox chemistry, *Earth and Planetary Science Letters*, **373**, 129-139.
58. **Goto, G. T.\***, Sekine Y., Suzuki, K., **Tajika E.**, Senda, R., Nozaki, T., Tada, R., **Goto, K.\*** Yamamoto, S., Maruoka, T., Ohkouchi, N., and Ogawa, N.O. (2013) Redox conditions in the atmosphere and shallow marine environments during the first Huronian deglaciation: insights from Os isotopes and redox-sensitive elements, *Earth and Planetary Science Letters*, **376**, 145-154.
59. **Kadoya, S.\*** and **Tajika, E.** (2014) Conditions for oceans on Earth-like planets orbiting within habitable zone: Importance of volcanic CO<sub>2</sub> degassing, *The Astrophysical Journal*, **790**, 107-113.
60. Kamata, S., Sugita, S., Abe, Y., Ishihara, Y., Harada, Y., Morota, T., Namiki, N., Iwata, T., Hanada H., Araki, H., Matsumoto, K., **Tajika, E.**, Kuramoto, K., Nimmo, F. (2015) The relative timing of Lunar Magma Ocean solidification and the Late Heavy Bombardment inferred from highly degraded impact basin structures, *Icarus*, **250**, 492–503.
61. **Harada, M.\***, **Tajika, E.**, and Sekine, Y. (2015) Transition to an oxygen-rich atmosphere with an extensive overshoot triggered by the Paleoproterozoic snowball Earth, *Earth and Planetary Science Letters*, **419**, 178-186.

B) Non-refereed Publications

1. Matsui, T. and Tajika, E. (1987) Fragmentation process of Allende meteorite during its atmospheric passage, *Lunar Planet. Sci.*, **XVIII**, 602-603, Lunar and Planetary Institute, Houston.
2. Matsui, T., Tajika, E., and Abe, Y. (1988) Climate and impact: Climatic change on Mars caused by impact basin formation, *Lunar Planet. Sci.*, **XIX**, 742-743, Lunar and Planetary Institute, Houston.

3. Matsui, T. and Tajika, E. (1989) Coupled evolution of the atmosphere-ocean, continent, and interiors, *Lunar Planet. Sci.*, **XX**, 634-635, Lunar and Planetary Institute, Houston.
4. Matsui, T. and Tajika, E. (1990) Evolution of proto-CO<sub>2</sub>-atmosphere on the Earth, *Lunar Planet. Sci.*, **XXI**, 740-741, Lunar and Planetary Institute, Houston.
5. Tajika, E. and Matsui, T. (1990) Early evolution of Venus: Coupled evolution of the atmosphere and geosphere, *Proc. ISAS Lunar Planet. Sci. Symp.*, **23**, 251-257, Institute of Space and Astronautical Science, Sagamihara.
6. Matsui, T. and Tajika, E. (1991) Early environmental evolution of Venus, *Lunar Planet. Sci.*, **XXII**, 863-864, Lunar and Planetary Institute, Houston.
7. Tajika, E. and Matsui, T. (1991) Thermal evolution and degassing history of the Earth and Venus, *Proc. ISAS Lunar Planet. Sci. Symp.*, **24**, 211-217, Institute of Space and Astronautical Science, Sagamihara.
8. Tajika, E. and Matsui, T. (1992) Evolution of the atmosphere of the Earth, *Proc. ISAS Lunar Planet. Sci. Symp.*, **25**, 178-183, Institute of Space and Astronautical Science, Sagamihara.
9. Sasaki, S. and Tajika, E. (1994) Degassing history and evolution of volcanic activity of terrestrial planets based on radiogenic noble gas degassing models, In *Conference on Deep Earth and Planetary Volatiles, LPI Contribution No. 845*, Lunar and Planetary Institute, Houston, 51pp.
10. Matsui, T. and Tajika, E. (1995) Comparative study of crustal evolution of Mars, Venus, and the Earth, *Lunar Planet. Sci.*, **XXVI**, 909-910, Lunar and Planetary Institute, Houston.
11. Matsui, T., Nakano, Y., Horai, K., Wada, K., Tajika, E., Hernandez Zuniga, R., and Campos Enriquez, J. O. (1998) Heat flow anomaly in the Chicxulub crater, *Lunar Planet. Sci.*, **XXIX**, 1255-1256, Lunar and Planetary Institute, Houston.
12. Matsui, T., Imamura, F., Tajika, E., Nakano, Y., Fujisawa, Y. (1999) K/T impact tsunami, *Lunar Planet. Sci.*, **XXX**, #1527, Lunar and Planetary Institute, Houston.
13. Takayama, H., Tada, R., Matsui, T., Iturralde-Vinent, M. A., Oji, T., Tajika, E., Kiyokawa, S., Garcia-Anmd, D., Okada, H., Hasegawa, T., and Toyoda, K. (1999) Origin of a giant event deposit in northwestern Cuba and its relation to K/T boundary impact, *Lunar Planet. Sci.*, **XXX**, #1534, Lunar and Planetary Institute, Houston.
14. Kiyokawa, S., Tada, R., Matsui, T., Tajika, E., Takayama, H., and Iturralde-Vinent, M. A. (1999) Extraordinary thick K/T boundary sequence; Cacarajicara formation, Western Cuba, *Lunar Planet. Sci.*, **XXX**, #1577, Lunar and Planetary Institute, Houston.

15. Nakamura, T., and Tajika, E. (1999) The climate system of Mars: Its stability and evolution, *Proc. ISAS Lunar Planet. Sci. Symp.*, **32**, 188-191, Institute of Space and Astronautical Science, Sagamihara.
16. Ikeda, T., and Tajika, E. (2000) Origin of the present bipolar ice caps: inferred from an energy balance climate model with CO<sub>2</sub> dependent outgoing radiation, *Proceedings of International Conference on Climate Change and Variability — Past, Present and Future —*, 65-70, International Geographical Union Commission on Climatology.
17. Ikeda, T., and Tajika, E. (2000) Past biogeochemical cycle in the ocean: constrained from a carbon cycle modeling during the last 130,000 years, *Proceedings of International Conference on Climate Change and Variability — Past, Present and Future —*, 275-280, International Geographical Union Commission on Climatology.
18. Nakamura, T., and Tajika, E. (2000) Martian climate system: Its stability and evolution, *Lunar Planet. Sci.*, **XXXI**, #1557, Lunar and Planetary Institute, Houston.
19. Tajika, E. (2000) Physical and geochemical processes in the global glaciation: Implication for Snowball Earth, In *Catastrophic Events and Mass Extinction: Impacts and Beyond, LPI Contribution No. 1053*, 228-229, Lunar and Planetary Institute, Houston.
20. Matsui, T., Imamura, F., Tajika, E., Nakano, Y., and Fujisawa, Y. (2000) Catastrophic global tsunami induced by K/T impact. In *Catastrophic Events and Mass Extinction: Impacts and Beyond, LPI Contribution No. 1053*, 137-138, Lunar and Planetary Institute, Houston.
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C) Others (in Japanese)

	Sole author	First author	Co-author	Total
Reviews and reports	20	4	10	34
Articles in books	39	0	2	41
Books published	6	0	0	6
	65	4	12	81