

# TAKEHIKO SATOH

## PERSONAL DATA

Born in Tokyo, Japan, on 5<sup>th</sup> December 1962.

## CURRENT ADDRESS

Department of Space Plasma Physics  
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## EDUCATIONAL BACKGROUND

Bachelor of Science in Physics, awarded March 1987 (Science University of Tokyo).  
Doctor of Science in Physics, awarded March 1992 (Science University of Tokyo).  
Master of Science in Physics, awarded March 1989 (Science University of Tokyo).

## PROFESSIONAL EMPLOYMENT

Visiting Scientist, Institute for Astronomy, University of Hawaii, Honolulu, Hawaii, USA  
April 1992 - April 1993, and June 1993 - September 1993.  
Astrophysicist, Hughes STX Corporation at NASA Goddard Space Flight Center, Greenbelt,  
Maryland, USA, October 1993 - March 1997.  
Lecturer, Frontier Research Center for Computational Sciences, Science University of Tokyo  
Noda-shi, Chiba, Japan, April 1997 - April 2001.  
Associate Professor, Faculty of Education, Kumamoto University, Kumamoto-shi, Kumamoto,  
Japan, May 2001 - November 2006.  
Professor, Department of Space Plasma Physics, Institute of Space and Astronautical Science,  
JAXA, Sagamihara-shi, Kanagawa, Japan,  
December 2006 – present.

## RESEARCH INTERESTS

Planetary atmospheres, magnetospheres, and surfaces. Variable phenomena in jovian planets: changes in clouds, large-scale disturbances, and auroral emissions. Atmospheric dynamics on major planets, such as Jupiter, Venus and Mars. Radiative transfer in planetary and stellar atmospheres. Single and multiple light-scattering theories and computational techniques. Instrument development for space missions and ground-based observations.

## HONORARY AND PROFESSIONAL SOCIETY

One-year support of the research in residence at the University of Hawaii by Yamada Science Foundation (February 1992).  
Research Aid of Inoue Foundation for Science (February 1994).

Asia Oceania Geosciences Society.  
American Geophysical Union.  
Division for Planetary Sciences, American Astronomical Society.  
Society of Geomagnetism and Earth, Planetary and Space Sciences.  
Japan Society of Planetary Sciences.  
Astronomical Society of Japan.

## SELECTED PUBLICATIONS

- Takehiko Satoh and Kiyoshi Kawabata. Methane band photometry of the faded South Equatorial Belt of Jupiter. *Astrophysical Journal*, 384:298–304, 1992.
- J.E.P. Connerney, Richard Baron, Takehiko Satoh, and Tobias Owen. Images of excited  $H_3^+$  at the foot of the Io flux tube in Jupiter's atmosphere. *Science*, 262:1035–1038, 1993.
- Takehiko Satoh and Kiyoshi Kawabata. A change of upper cloud structure in Jupiter's South Equatorial Belt during the 1989–1990 event. *Journal of Geophysical Research*, 99:8425–8440, 1994.
- Richard Baron, Tobias Owen, J.E.P. Connerney, Takehiko Satoh, and Joseph Harrington. Solar wind control of Jupiter's  $H_3^+$  auroras. *Icarus*, 120:437–442, 1996.
- J.E.P. Connerney, Takehiko Satoh, and Richard Baron. Interpretation of auroral "light curves" with application to jovian  $H_3^+$  emissions. *Icarus*, 122:24–35, 1996.
- Takehiko Satoh, J.E.P. Connerney, and Richard Baron. Emission source model of Jupiter's  $H_3^+$  aurorae: A generalized inverse analysis of images. *Icarus*, 122:1–23, 1996.
- J.E.P. Connerney, Mario Acuna, Norman Ness, and Takehiko Satoh. New models of Jupiter's magnetic field constrained by the Io flux tube footprint. *Journal of Geophysical Research*, 103:11929–11939, 1998.
- Takehiko Satoh and J.E.P. Connerney. Jupiter's  $H_3^+$  emissions viewed in corrected jovimagnetic coordinates. *Icarus*, 141:236–252, 1999.
- Takehiko Satoh and J.E.P. Connerney. Spatial and temporal variations of Jupiter's  $H_3^+$  emissions deduced from image analysis. *Geophysical Research Letters*, 26:1789–1792, 1999.
- Takehiko Satoh, Seigo Itoh, Kiyoshi Kawabata, Takafumi Tenma, and Tokuhide Akabane. A universal phase function for jovian clouds from the visible to near-IR wavelength region. I. Zone phase function. *Publications of the Astronomical Society of Japan*, 52:363–374, 2000.
- J.E.P. Connerney and Takehiko Satoh. The  $H_3^+$  ion: A remote diagnostic of the jovian magnetosphere. *Philosophical Transactions: Mathematical, Physical and Engineering Sciences*, 358:2471–2483, 2000.
- Masato Nakamura, Takehiko Satoh, and 18 co-authors. Planet-C: Venus Climate Orbiter mission of Japan. *Planetary and Space Science*, 55:1831–1842, 2007.
- Takehiko Satoh, Takeshi Imamura, G. L. Hashimoto, Naomoto Iwagami, Kazuaki Mitsuyama, Satoko Sorahana, Pierre Drossart, and Giuseppe Piccioni. Cloud structure in venus middle-to-lower atmosphere as inferred from VEX/VIRTIS 1.74- $\mu\text{m}$  data. *Journal of Geophysical Research*, 114, E00B37, doi:10.1029/2008JE003184, 2009.