

# Curriculum Vitae

- **Takeru K. Suzuki**

- Nationality : Japanese
- Date of Birth : June 23rd, 1975
- Place of Birth : Osaka, Japan
- Professor, Graduate School of Arts & Sciences, The University of Tokyo
- Office : 16th. bldg. 803B, 3-8-1, Komaba, Meguro, Tokyo, 153-8902, Japan
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- Professional Appointments

- April, 2003 – February, 2006 : JSPS Research Fellow, Department of Physics, Kyoto University
- March, 2006 – September, 2009 : Assistant Professor, Graduate School of Arts & Sciences, The University of Tokyo
- October, 2009 – April, 2016 : Associate Professor, Department of Physics, Graduate School of Science, Nagoya University
- April, 2016 – : Professor, School of Arts & Sciences, The University of Tokyo
- April, 2016 – : Visiting Professor, Department of Physics, Graduate School of Science, Nagoya University

- Education

- March, 1998, University of Tokyo, Bachelor of Science
- March, 2000, University of Tokyo, Master of Science  
Title of Thesis “A New Model of Evolution of Light Elements in Inhomogeneous Early Galaxy”
- March, 2003, University of Tokyo, D.Sci.  
Title of Thesis “On the Heating of the Solar Corona and the Acceleration of the Solar Wind by Waves”

- Awards

- 2003: JSPS Research Fellow
- 2007: Grant from Inamori Foundation
- 2011 (fiscal year 2010): Astronomical Society of Japan, Young Astronomer Award
- 2015 (fiscal year 2014): Japan Geoscience Union Nishida Prize

## Pulication & Talk Lists

### Refereed Paperps

1. “Evolution of Protoplanetary Discs with Magnetically Driven Disc Winds”,  
Suzuki, T. K., Ogihara, M., Morbidelli, A., Crida, A., & Guillot, T., *Astronomy & Astrophysics*, in press (2016)
2. “Stochastic Particle Acceleration in Turbulence Generated by Magnetorotational Instability”,  
Kimura, S. S.; Toma, K., Suzuki, T. K., & Inutsuka, S., *The Astrophysical Journal*, **822**, 88, 11pp (2016)
3. “Dust Dynamics in Protoplanetary Disk Winds Driven by Magnetorotational Turbulence: A Mechanism for Floating Dust Grains with Characteristic Sizes”,  
Miyake, T., Suzuki, T. K., & Inutsuka, S., *The Astrophysical Journal*, **821**, 3, 8pp (2016)
4. “Note on one-fluid modeling of low-frequency Alfvnic fluctuations in a solar wind plasma with multi-ion components”,  
Nariyuki, Y., Umeda, T., Suzuki, T. K., & Hada, T., *Physics, of Plasma*, **22**, 124502
5. “Stochastic Noncircular Motion and Outflows Driven by Magnetic Activity in the Galactic Bulge Region”,  
Suzuki, T. K., Fukui, Y., Torii, K., Machida, M., & Matsumoto, R., *Monthly Notices of Royal Astronomical Society*, **545**, 3049 (2015)
6. “Effects of axions on nucleosynthesis in massive stars”,  
Aoyama, S. & Suzuki, T. K., *Physical Review D*, **92**, id063016 (2015)
7. “Atmospheric Escape by Magnetically Driven Wind from Gaseous Planets. II. Effects of Magnetic Diffusion”,  
Tanaka, Y. A., Suzuki, T. K., & Inutsuka, S., *The Astrophysical Journal*, **809**, 125, 12pp (2015)
8. “Formation of terrestrial planets in disks evolving via disk winds and implications for the origin of the solar system’s terrestrial planets”,  
Ogihara, M., Kobayashi, H., Inutsuka S., & Suzuki, T. K., *Astronomy & Astrophysics*, **579**, 65, 8pp (2015)
9. “Atmospheric Escape by Magnetically Driven Wind from Gaseous Planets”,  
Tanaka, Y. A., Suzuki, T. K., & Inutsuka, S., *Astrophys. J.*, **792**, 18, 9pp (2014)
10. “A signature of chromospheric activity in brown dwarfs revealed by 2.5-5.0  $\mu\text{m}$  AKARI spectra”,  
Sorahana, S., Suzuki, T. K., & Yamamura, I., *Mon. Not. Roy. Astron. Soc.*, **440**, 3675-3684 (2014)
11. “Connecting the Sun and the solar wind: the self-consistent transition of heating mechanisms”,  
Matsumoto, T. & Suzuki, T. K., *Mon. Not. Roy. Astron. Soc.*, **440**, 971-986 (2014)
12. “The Evolution of High-temperature Plasma in Magnetar Magnetospheres and its Implications for Giant Flares”,  
Takamoto, M., Kisaka, S., Suzuki, T. K., & Terasawa, T., *Astrophys. J.*, **787**, 84, 13pp (2014)
13. “Magnetohydrodynamic Simulations of Global Accretion Disks with Vertical Magnetic Fields”,  
Suzuki, T. K. & Inutsuka, S., *Astrphys. J.*, **784**, 121, 30pp (2014)
14. “Ion acceleration by parallel propagating nonlinear Alfvn wave packets in a radially expanding plasma”.  
Nariyuki, Y., Umeda, T., Suzuki, T. K., & Hada, T., *Nonlinear Processes in Geophysics*, **21**, 339-346 (2014)
15. “Driving Disk Winds and Heating Hot Coronae by MRI Turbulence”,  
Io, Yuki & Suzuki, T. K., *Astrophys. J.*, **780**, 46, 13pp (2014)
16. “Saturation of Stellar Winds from Young Suns”,  
Suzuki, T. K., Imada, S., Kataoka, R., Kato, Y., Matsumoto, T., Miyahara, H., & Tsuneta, S. *Publ. Astron. Soc. Japan*, **65**, 98 (2013)

17. “Evolution of solar-type stellar winds”,  
Suzuki, T. K., *Astronomische Nachrichten*, **334**, 81-84 (2013)
18. “Waves and Turbulences in Solar and Stellar Atmospheres and Winds”,  
Suzuki, T. K. & Matsumoto T., *Plasma and Fusion Research*, **8**, 2401129 (2013)
19. “Noble gas isotopic fractionation between solar wind and the Sun, and implications for Genesis solar wind oxygen measurements”,  
Ozima, M, Suzuki, T. K., Yamada, A., & Podosek, F. A., *Meteoritics & Planetary Science*, **47**, 2049-2055 (2012)
20. “Connecting the Sun and the Solar Wind: The First 2.5-dimensional Self-consistent MHD Simulation under the Alfvén Wave Scenario”,  
Matsumoto, T. & Suzuki, T. K., *Astrophys. J.*, **749**, 8, 5pp (2012)
21. “Solar wind and its evolution”  
Suzuki, T. K., *Earth, Planets and Space*, **64**, 201-206 (2012)
22. “Self-consistent Simulations of Alfvén Wave Driven Winds from the Sun and Stars”,  
Suzuki, T. K., *Space Science Rev.*, **158**, 339 - 363 (2011)
23. “Two-dimensional Study of the Propagation of Planetary Wake and the Indication of Gap Opening in an Inviscid Protoplanetary Disk”,  
Muto, T., Suzuki, T. K., & Inutsuka, S., *Astrophys. J.*, **724**, 448 - 463 (2010)
24. “Protoplanetary Disk Winds via Magnetorotational Instability: Formation of an Inner Hole and a Crucial Assist for Planet Formation”,  
Suzuki, T. K., Muto, T. & Inutsuka, S., *Astrophys. J.*, **718**, 1289 - 1304 (2010)
25. “Thermal Response of a Solar-like Atmosphere to an Electron Beam from a Hot Jupiter: A Numerical Experiment”,  
Gu, P.-G. & Suzuki, T. K., *Astrophys. J.*, **705**, 1189 - 1195 (2009)
26. “ ${}^6\text{Li}/{}^7\text{Li}$  estimates for metal-poor stars”,  
García Pérez, A. E., Aoki, W., Inoue, S., Ryan, S. G., Suzuki, T. K., & Chiba, M., *Astron.& Astrphys.*, **504**, 213 - 223 (2009)
27. “The New Detections of  ${}^7\text{Li}/{}^6\text{Li}$  Isotopic Ratio in the Interstellar Media”,  
Kawanomoto, S., Kajino, T., Aoki, W., Bessell, M., Suzuki, T. K., Ando, H., Noguchi, K., Honda, S., Izumiura, H., Kambe, E., Okita, K., Sadakane, K., Sato, B., Tajitsu, A., Takada-Hidai, M., Tanaka, W., Watanabe, E., & Yoshida, M., *Astrophys. J.*, **701**, 1506 - 1518 (2009)
28. “Disk Winds Driven by Magnetorotational Instability and Dispersal of Protoplanetary Disks”,  
Suzuki, T. K. & Inutsuka, S., *Astrophys. J. Lett.*, **691**, L49 - L54 (2009)
29. “The Magnetic Landscape of the Sun’s Polar Region”,  
Tsuneta, S., Ichimoto, K., Katsukawa, Y., Lites, B. W., Matsuzaki, K., Nagata, S., Orozco Suarez, D., Shimizu, T., Shimojo, M., Shine, R. A., Suematsu, Y., Suzuki, T. K., Tarbell, T. D., Title, A. M., *Astrophys. J.*, **688**, 1374 - 1381 (2008)
30. “Alfvén wave-driven Supernova Explosions”,  
Suzuki, T. K., Sumiyoshi, K. & Yamada, S., *Astrophys. J.*, **678**, 1200-1206 (2008)
31. “Coronal heating and wind acceleration by nonlinear Alfvén waves - global simulations with gravity, radiation, and conduction”,  
Suzuki, T. K., *Nonlinear Processes in Geophysics*, **15**, 205 - 304 (2008)
32. “Evolution of Collisionally Merged Massive Stars”,  
Suzuki, T. K., Nakasato, N., Baumgardt, H. Ibukiyama, A., Makino, J., & Ebisuzaki, T., *Astrophys. J.*, **668**, 435-448 (2007)
33. “Cascading of Fast-Mode Balanced and Imbalanced Turbulence”,  
Suzuki, T. K., Lazarian, A., & Beresnyak, A., *Astrophys. J.*, **662**, 1033-1042 (2007)

34. “The Origin of Ripples in Cool Cores of Galaxy Clusters: Heating by Magnetohydrodynamical Waves ?”, Fujita, Y., Suzuki, T. K., Kudoh, T., & Yokoyama, T., *Astrophys. J. Lett.*, **659**, L1-L4 (2007)
35. “Structured Red Giant Winds with Magnetized Hot Bubbles and the Corona/Cool Wind Dividing Line”, Suzuki, T. K., *Astrophys. J.*, **659**, 1592-1610 (2007)
36. “Solar winds driven by nonlinear low-frequency Alfvén waves from the photosphere: Parametric study for fast/slow winds and disappearance of solar winds”, Suzuki, T. K. & Inutsuka, S., *J. Geophys. Res.*, A06101 (2006)
37. “Collisionless Damping of Fast Magnetohydrodynamic Waves in Magnetorotational Winds”, Suzuki, T. K., Yan, H., Lazarian, A., & Cassinelli, J. P., *Astrophys. J.*, **640**, 1005-1017 (2006)
38. “Forecasting Solar Wind Speeds”, Suzuki, T. K., *Astrophys. J.*, **640**, L75-L78 (2006)
39. “Making the Corona and the Fast Solar Wind: A Self-consistent Simulation for the Low-Frequency Alfvén Waves from the Photosphere to 0.3 AU”, Suzuki, T. K. & Inutsuka, S., *Astrophys. J.*, **632**, L49-L52 (2005)
40. “On the Heating of Cluster Cooling Flows by Sound Waves”, Fujita, Y. & Suzuki, T. K., *Astrophys. J.*, **630**, L1-L4 (2005)
41. “Alfvén Wave-driven Proto-Neutron Star Winds and r-Process Nucleosynthesis”, Suzuki, T. K. & Nagataki, S., *Astrophys. J.*, **628**, 914-922 (2005)
42. “Cosmic Rays and Gamma-Rays in Large-Scale Structure”, Inoue, S., Nagashima, M., Suzuki, T. K., & Aoki, W., *J. Korean Astron. Soc.*, **37**, 447-454 (2004)
43. “A low upper-limit on the lithium isotope ratio in HD140283”, Aoki, W., Inoue, S., Kawanomoto, S., Ryan, S. G., Smith, I. M., Suzuki, T. K., & Takada-Hidai, M., *Astron. Astrophys.*, **428**, 579-586 (2004)
44. “Coronal heating and acceleration of the high/low-speed solar wind by fast/slow MHD shock trains”, Suzuki, T. K., *Mon. Not. Roy. Astron. Soc.*, **349**, 1227-1239 (2004)
45. “Tsunamis in Galaxy Clusters: Heating of Cool Cores by Acoustic Waves”, Fujita, Y., Suzuki, T. K., & Wada, K., *Astrophys. J.*, **600**, 650-656 (2004)
46. “Cosmic Ray Production of  ${}^6\text{Li}$  by Virialisation Shocks in the Early Milky Way”, Suzuki, T. K. & Inoue, S., *Pub. Astron. Soc. Australia*, **21**, 148-152 (2004)
47. “Cosmic ray production of  ${}^6\text{Li}$  by structure formation shocks in the early galaxy”, Inoue, S. & Suzuki, T. K., *Nucl. Phys. A.*, **718**, 69-72 (2003)
48. “On the Heating of the Solar Corona and the Acceleration of the Low-Speed Solar Wind by Acoustic Waves Generated in the Corona”, Suzuki, T. K., *Astrophys. J.*, **578**, 598-609 (2002).
49. “Cosmic-Ray Production of  ${}^6\text{Li}$  by Structure Formation Shocks in the Early Milky Way: A Fossil Record of Dissipative Processes during Galaxy Formation”, Suzuki, T. K. & Inoue, S., *Astrophys. J.*, **573**, 168-173 (2002)
50. “A New Model for the Evolution of Light Elements in an Inhomogeneous Galactic Halo”, Suzuki, T. K. & Yoshii, Y., *Astrophys. J.*, **549**, 303-319, (2001).
51. “Abundances and Evolution of Lithium in the Galactic Halo and Disk”, Ryan, S. G., Kajino, T., Beers, T. C., Suzuki, T. K., Romano, D., Matteucci, F., & Rosolankova, K., *Astrophys. J.*, **549**, 55-71, (2001).
52. “Primordial Lithium Abundance as a Stringent Constraint on the Baryonic Content of the Universe”, Suzuki, T. K., Yoshii, Y., & Beers, T. C., *Astrophys. J.*, **540**, 99-103, (2000).
53. “Evolution of Beryllium and Boron in the Inhomogeneous Early Galaxy”, Suzuki, T. K., Yoshii, Y., & Kajino, T. *Astrophys. J.* **522**, L125 - L128 (1999).

## Talks in International Conferences

### Invited Talks

1. “Magnetic Activity in Galactic Center Region”, T. K. Suzuki et al., in “18th International Congress on Plasma Physics”, June 27- July 1, 2016, Kaohsiung, Taiwan
2. “MHD simulations for cool star winds” in “XXIX IAU General Assembly, Focused Meeting 16 Stellar Behemoths- Red Supergiants across the Local Universe”, Aug. 3-14, 2015, Honolulu, Hawaii, USA
3. “Response of Solar Wind on Extreme Solar Activity” in “14th International Astrophysics Conference, Linear and Nonlinear Particle Energization throughout the Heliosphere and Beyond”, Apr. 19-24, 2015, Tampa, Florida, USA
4. “Disk wind driven by MRI turbulence: evolution of gas and dust” in “The Magneto-Rotational Instability Confronts the Observations”, Apr. 13-17, 2015, Ringberg Castle, Tegernsee, Germany
5. “What determines properties of the solar wind ?” in “SCOSTEP 13th Quadrennial Solar-Terrestrial Physics Symposium”, Oct. 12-18, 2014, Xi’an, Shanxi, China
6. “Alfvén wave-driven solar wind during very active phases” in “AGU Chapmann Conference on Low-frequency Waves in Space Plasmas”, Aug.31 - Sep. 5, 2014, Jeju island, South Korea
7. “Disk winds driven by MRI –some aspects and applications–” in “Non-ideal MHD, Stability, and Dissipation in Protoplanetary Disks”, Aug, 4-8, 2014, Copenhagen, Denmark
8. “Accretion Disk Winds by MRI Turbulence” in “Astronom 2014, 9th Annual International Conference on Numerical Modeling of Space Plasma Flows”, Jun. 23-27, 2014, Long Beach, California, USA
9. “Accretion Disk Winds by MRI Turbulence” in “MR2014; US–Japan Workshop on Magnetic Reconnection”, May 20-24, 2014 Tokyo/Nikko, Japan
10. “Saturation of Stellar Winds from Young Suns” in “Huntsville Workshop 2014 –Solar and Stellar Processes from the Chromosphere to the Outer Corona–”, Mar. 23-27, 2014, Orlando, Florida, USA
11. “Waves and turbulences in solar and stellar atmosphere and wind” in “International Toki Conference 22: Cross-Validation of Experiment and Modeling for Fusion and Astrophysical Plasmas”, Nov. 21-24, 2012, Toki, Gifu, Japan
12. “Evolution and saturation of solar wind and properties of wave and turbulence” in “Turbulence Cascade in the Solar Wind: Anisotropy and Dissipation”, Sep. 19-23, 2012, Meudon/Paris, France
13. “Physics and evolution of the stellar winds from low to intermediate stars” in “IAU General Assembly Special Session 10”, Aug. 20-31, 2012, Beijing, China
14. “Roles of Alfvén Waves in Determining Solar Wind Properties” in 6th. Annual Meeting of Asia Oceania Geoscience Society”, Aug. 11-15, 2009, Singapore
15. “Propagation of Alfvén waves from the photosphere to the solar wind” in Workshop on MHD waves and seismology of the solar atmosphere (BUKS2009), Apr.6-8, 2009, Leuven, Belgium
16. “Evolution of Stellar Wind from the Sun to Red Giants”, in “IAU Symp.257 Universal Heliophysical Processes”, Sep.15-19, 2008, Ioannina, Greece
17. “MHD simulations of stellar/solar winds driven by surface convection”, in “2nd East Asian Numerical Astrophysics Meeting”, Nov.1-3, 2006, Daejeon, Korea
18. “Coronal Heating and Wind Acceleration by Nonlinear Alfvén Waves -Global Simulation with Gravity, Radiation, and Conduction-”, in “The 6th International Workshop on Nonlinear Waves and Turbulence in Space Plasma”, Oct.9-13, 2006, Fukuoka, Japan
19. “Making the Corona and the Solar Wind via Nonlinear Alfvén Waves from the Photosphere”, in “European Geoscience Union General Assembly”, April 2-7, 2006, Vienna, Austria

20. “Self-Consistent MHD Modeling of Solar Wind”, in “6th Solar-B Science Meeting”, Nov.8-11, 2005, Kyoto, Japan
21. “Coronal Heating and Solar Wind Acceleration by MHD Shock Trains”, in “1st. Annual Meeting of Asia Oceania Geoscience Society”, July 6-9, 2004, Singapore
22. “Cosmic Ray Production of  ${}^6\text{Li}$  by Structure Formation Shocks”, in “Galactic Chemodynamics V.”, July 9-11, 2003 in Swinburne University, Melbourne, Australia

### Contributed Talks (Selected)

1. “Investigating Magnetic Activity in the Galactic Center Region by Global MHD Simulation”, in “IAU Symposium 322 –The Multi-Messenger Astrophysics of the Galactic Centre–”, July 18-22, 2016, Cairns, Australia
2. “Evolution of Solar-type Stellar Wind”, in “AOGS – AGU Joint Assembly”, August 13-17, 2012, Singapore
3. “Evolution of solar-type stellar winds” in “Cool Stars 17”, June 24-29, 2012, Barcelona, Spain
4. “Evolution from coronal wind to structured chromospheric wind”, in “New Quests for Stellar Astrophysics III”, March 12-16, 2012, Puerto Vallarta, Mexico
5. “Protoplanetary Disk Winds” in “Formation of Stars & Planets”, October 3-7, 2011, Ishigaki isla., Japan
6. “Solar wind and its evolution”, in “5th Alfvén Conference on Plasma Interaction with Non-magnetized Planets/Moons and its Influence on Planetary Evolution”, October 4 - 8, 2010, Sapporo, Japan
7. “Hinode observation : Solar Wind” in “The 2nd SOLAR-C Science Definition Meeting”, March 9 - 12, 2010, ISAS/JAXA, Japan
8. “MHD simulation of structured red giant winds” in “Cool Stars 15”, July 20 - 25, 2008, St.Andrews, Scotland, U.K.
9. “Magnetic Reconnections in Planet Magnetosphere and Chromospheric/Coronal Activities of a Central Stars” in “Cool Stars 15”, July 20 - 25, 2008, St.Andrews, Scotland, U.K.
10. “Evolution of Alfvén wave-driven solar winds to red giants”, in “Waves & Oscillations in the Solar Atmosphere: Heating & Magneto-seismology (IAU Symp.247)”, September 17 - 22, 2007, Porlamar, Isla de Margarita, Venezuela
11. “Successful Coronal Heating and Solar Wind Acceleration by MHD Waves by Numerical Simulations from Photosphere to 0.1AU” in “SOHO 16/Solar Wind 11”, June 12-17, 2005, Whistler, Canada
12. “What Determines the Solar Wind Speed ?” in “American Geophysical Union Meeting”, May 23-27, 2005, New Orleans, U.S.A.
13. “Coronal Heating And Acceleration of the High- And Low-Speed Solar Winds by MHD waves” in “SOHO 15; Coronal Heating”, September 6-9, 2004, St.Andrews, Scotland, U.K.
14. “Coronal Heating and Acceleration of the High/Low-Speed Solar Wind by Fast/Slow MHD Waves” in “The 5th Solar-B Science Meeting”, November 12-14, 2003, Tokyo, Japan
15. “Coronal heating by acoustic waves” in “The 4th Solar-B Science Meeting”, February 3-5, 2003, ISAS/NAOJ, Tokyo, Japan
16. “Evolution of light elements in an inhomogeneous Galactic halo”, in “Cosmic Evolution” November 13-17, 2000, IAP, Paris, France
17. “A New Model of Evolution of Light Elements in Inhomogeneous Galactic Halo” in International Conference of “Origin of Matter and Evolution of Galaxy 2000”, January 17-19, 2000, Tokyo, Japan
18. “A New Model of Evolution of Light Elements in Galactic Halo And New Determination Method of Primordial  $\text{Li}7$  abundance”, in “Subaru HDS Workshop on Stars and Galaxies”, December 8-10, 1999, Tokyo, Japan