

Curriculum Vitae

Name: Xiaohua Deng,

Position: Professor

Vice-president

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Major in:

Space science, Radio Science, Plasma physics, Computer science

Education:

1980—1984	Huazhong U. of Science and Technology,	Bachelor in Engineering
1984—1987	Institute of Plasma Physics, Chines Academy Sciences	Master Degree in Science Experimental Plasma Physics
(Thesis entitled “Experiments of small angle coherent scattering of CO ₂ laser on plasma”)		
1987—1990	Institute of Plasma Physics, Chines Academy Sciences	Doctor Degree in Science Theoretical Plasma Physics
(Thesis entitled “Coupling of MHD instabilities with plasma transport process”)		

Professional Career

1990—1993	Post-Doctor, Associate Professor, U. of Science and Technology of China
1993—1996	Post-Doctor, Professor, Department of Space Physics, Wuhan U.
1996—2009	Professor, School of Electronics and Information, Wuhan U.
2003,1---2008,1	Principle Professor at Wuhan U. under Cheung Kong Scholars Programme, Ministry of Education of China
2009,2- Now	Vice President, Nanchang U.

Visiting Professor

1999,6---2000,6	Visiting Scientist, Kyoto U. (COE)
2000,7---2000,10	Visiting Professor, Kyoto U.
2001,4---2002,2	Visiting Professor, Kyoto U. (JSPS)
2002,7---2002,12	Visiting Professor, Kyoto U.
2003,6---2003,9	Visiting Professor, The Space Research Institute of the Austrian Academy of

Sciences (AAS)
 2004,3-----2004,6 Visiting Professor, Kyoto U.
 2004.11-2004.12 Visiting Professor, The Space Research Institute of the Austrian Academy of
 Sciences (AAS)
 2005.11-2005.12 Visiting Professor, The Space Research Institute of the Austrian Academy of
 Sciences (AAS)
 2006.11-2007.01 Visiting Professor, The Space Research Institute of the Austrian Academy of
 Sciences (AAS)
 2008,01-2008,04 Visiting Professor, LPCE, University of Orleans, France
 2008,11-2009,2 Visiting Professor, IGPP/UCLA, USA

Vice-Chair of Scientific commission D on space plasmas in the solar system, including
 planetary magnetospheres of The Committee on Space Research (COSPAR) (2004-2012)

President of Solar Terrestrial Science (ST) of Asia Oceania Geosciences Society (AOGS)
 (2008-2010)

Selected Publications

1. K. L. Tsakmakidis, L. Shen, S. A. Schulz, X. Zheng, J. Upham, **X. Deng**, et al. Breaking Lorentz reciprocity to overcome the time-bandwidth limit in physics and engineering, *Science* 356 (6344), 1260-1264, 2017.
2. Zhou, M., Ashour-Abdalla, M. and **Deng, X. H.** et al. Observation of three-dimensional magnetic reconnection in the terrestrial magnetotail. *Journal of Geophysical Research: Space Physics*, 122, 9513–9520, 2017
3. M. Zhou, J. Berchem, R. J. Walker, M. El-Alaoui, **X. Deng** et al. , Coalescence of Macroscopic Flux Ropes at the Subsolar Magnetopause: Magnetospheric Multiscale Observations. *Phys. Rev. Lett.* 119, 055101 ,2017.
4. Huang S. Y., Z. G. Yuan, F. Sahraoui, H. S. Fu, Y. Pang, M. Zhou, K. Fujimoto, **X. H. Deng** et al., Occurrence rate of whistler waves in the magnetotail reconnection region, *J. Geophys. Res. Space Physics*, 122, 7188–7196, doi:[10.1002/2016JA023670](https://doi.org/10.1002/2016JA023670). 2017
5. Zhou, M., T. Li, **X. Deng**, et al., Statistics of energetic electrons in the magnetotail reconnection, *J. Geophys. Res. Space Physics*, 121, 3108–3119, doi:[10.1002/2015JA022085](https://doi.org/10.1002/2015JA022085), 2016.
6. Huang, S. Y., F. Sahraoui, A. Retino, O. Le Contel, Z. Yuan, A. Chasapis, N. Aunai, H. Breuillard, **X. Deng**, et al., MMS observations of ion-scale magnetic island in the magnetosheath turbulent plasma, *Geophys. Res. Lett.*, 43, 7850–7858, doi:[10.1002/2016GL070033](https://doi.org/10.1002/2016GL070033), 2016.
7. Huang, S. Y., H.S. Fu, Z. G. Yuan, A. Vaivads, Y. V. Khotyaintsev, A. Retino, M. Zhou, D. B. Graham, K. Fujimoto, F. Sahraoui, **X. H. Deng** et al. Two types of whistler waves in the hall reconnection region. *Geophys. Res. Space Physics*, 121, 6639–6646, doi:[10.1002/2016JA022650](https://doi.org/10.1002/2016JA022650) ,2016.
8. Wang, D., Z. Yuan, X. Yu, S. Huang, **X. Deng** et al., Geomagnetic storms and EMIC waves: Van Allen Probe observations, *J. Geophys. Res. Space Physics*, 121, 6444–6457,

doi:10.1002/2015JA022318, 2016.

9. Xu X, Wang Y, Wei F, Feng X, **Deng X**, Ma Y, Zhou M, Pang Y, Wong HC, , Direct evidence for kinetic effects associated with solar wind reconnection, *Sci. Rep.* 5, 8080, doi: 10.1038/srep08080, 2015
10. L. F. Shen, Y. You, Z. Y. Wang, and **X. H. Deng**, “Backscattering-immune one-way surface magnetoplasmons at terahertz frequencies”, *Optics Express* **23**, 950 (2015)
11. **X. H. Deng**, L. J. Hong, X. D. Zheng, and L. F. Shen, “One-way regular electromagnetic mode immune to backscattering”, *Applied Optics* **54**, 4608 (2015).
12. X. Li, T. Jiang, L. F. Shen, and **X. H. Deng**, “Subwavelength guiding of channel plasmon polaritons by textured metallic grooves at telecom wavelengths”, *Applied Physics Letters* **102**, 031606 (2013).
13. Zhou meng, Li huimin, **Deng xiaohua**, et al., Characteristic distribution and possible roles of waves around the lower hybrid frequency in the magnetotail reconnection region 《*J. Geophys. Res. Space Physics*》, 119, 8228–8242.,2014.
14. Zhou meng, Pang ye, **Deng xiaohua**, Plasma physics of magnetic island coalescence during magnetic reconnection, *J. Geophys. Res. Space Physics*, 119, 6177–6189, 2014.
15. Zhou meng, **Deng xiaohua**, Tang rongxin et al., Evidence of deflected super-Alfvénic electron jet in a reconnection region with weak guide field, *J. Geophys. Res. Space Physics*, 119, 1541–1548, 2014.
16. L. F. Shen, Z. Y. Wang, **X. H. Deng**, J.-J. Wu, and T. -J. Yang, “Complete trapping of electromagnetic radiation using surface magnetoplasmons”, *Optics Letters* **40**, 1853,2015.
17. L. F. Shen, X. D. Zheng, and **X. H. Deng**, “Stopping terahertz radiation without backscattering over a broad band”, *Optics Express* **23**, 11790 ,2015.
18. **Deng, X.**, M. Ashour-Abdalla, M. Zhou, R. Walker, M. El-Alaoui, V. Angelopoulos, R. E. Ergun, and D. Schriver, Wave and Particle Characteristics of Earthward Electron Injections Associated with Dipolarization Fronts, *J. Geophys. Res.*, 115, A09225, doi:10.1029/2009JA015107, 2010.
19. Zhou, M., M. Ashour-Abdalla, **X. Deng**, D. Schriver, M. El-Alaoui, and Y. Pang, THEMIS observation of multiple dipolarization fronts and associated wave characteristics in the near-Earth magnetotail, *Geophys. Res. Lett.*, 36, L20107, doi:10.1029/2009GL040663, 2009.
20. Zhou, M., X.H. Deng, S.Y. Li, Y. Pang et al., Observation of waves near lower hybrid frequency in the reconnection region with thin current sheet, *J. Geophys. Res.*, 114, A02216, doi:10.1029/2008JA013427, 2009.
21. **Deng, X.H.**, M. Zhou, S.Y. Li et al., Dynamics and waves near multiple magnetic null points in reconnection diffusion region, *J. Geophys. Res.*, 114, A07216, doi:10.1029/2008JA013197, 2009.
22. S.Y. Li, **X.H. Deng**, M. Zhou, et al., Statistical study of electrostatic solitary waves associated with reconnection: Geotail observations . *J. Adv. Space Res*, vol.43, No.3, 2009. S. Y. Huang, M. Zhou, F. Sahraoui, **X. H. Deng**, Y. Pang, Z. G. Yuan, Q. Wei, J. F. Wang, and X. M. Zhou, Wave properties in the magnetic reconnection diffusion region with high β : Application of the k-filtering method to Cluster multispacecraft data, *J. Geophys. Res.*, 115, A12211, doi:10.1029/2010JA015335, 2010.
23. Zhou, M., Y. Pang, **X. H. Deng**, Z. G. Yuan, and S. Y. Huang, Density cavity in magnetic reconnection diffusion region in the presence of guide field, *J. Geophys. Res.*, 116, A06222, doi:10.1029/2010JA016324, 2011.

24. Yuan, Z., **X.H. Deng**, X. Lin, Y. Pang, M. Zhou et al., Link between EMIC waves in a plasmaspheric plume and a detached sub-auroral proton arc with observations of Cluster and IMAGE satellites, *Geophys. Res. Lett.*, 37, L07108, doi:10.1029/2010GL042711, 2010.
25. Yuan, Z.-G., **X.-H. Deng**, S.-R. Zhang, W.-X. Wan, and B. W. Reinisch, F region behavior in the SED plume during a geomagnetic superstorm: A case study, *J. Geophys. Res.*, 114, A08303, doi:10.1029/2008JA013841, 2009.
26. Pang, Y., Y. Lin, **X. H. Deng**, X. Y. Wang, and B. Tan, Three-dimensional hybrid simulation of magnetosheath reconnection under northward and southward interplanetary magnetic field, *J. Geophys. Res.*, 115, A03203, doi:10.1029/2009JA014415, 2010.
27. Yuan, Z., L. Zhao, Y. Xiong, **X. Deng**, and J. Wang, Energetic particle precipitation and the influence on the sub-ionosphere in the SED plume during a super geomagnetic storm, *J. Geophys. Res.*, 116, A09317, doi:10.1029/2011JA016821, 2011.
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31. LI Shi-You, **DENG Xiao-Hua**, ZHOU Meng, et al., Cluster Observation of Electrostatic Solitary Waves around Magnetic Null Point in Thin Current Sheet, *Chin. Phys. Lett.*, Vol. 27, No. 1, 019401, 2010.
32. Huang, S. Y., Zhou, **M.**, Deng, X. H., Yuan, Z. G., Pang, Y., Wei, Q., Su, W., Li, H. M., and Wang, Q. Q.: Kinetic structure and wave properties associated with sharp dipolarization front observed by Cluster, *Ann. Geophys.*, 30, 97-107, doi:10.5194/angeo-30-97-2012, 2012.
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34. Pang Y, Y. Lin, X.H. Deng, global hybrid simulation of magnetic reconnection in the magnetosheath, *Chinese J. Space. Sci.*, 30, 332-42, 2010.
35. Lin M. H., X. H. Deng, Z.G. Yuan and J.F. Wang, Characteristics of magnetic variations and current wedge in the sawtooth event on 30 September 2000, *Chin. J. Geophys. Res.*, Vol 53, Issue 10, 2280-2290, 2010.
36. Zhou, M., M. Ashour-Abdalla, X. Deng, M. El-Alaoui, R. L. Richard, and R. J. Walker, Modeling substorm ion injection observed by the THEMIS and LANL spacecraft in the near-Earth magnetotail, *J. Geophys. Res.*, 116, A08222, doi:10.1029/2010JA016391, 2011.
37. ZHOU Meng, HUANG Shiyong, DENG Xiao-Hua, PANG Ye, Observation of Sharp Negative Dipolarization Front in the Reconnection Outflow Region, *Chin. Phys. Lett.*, Vol. 28, No. 10, 109402, 2011.
38. Xi Lin, Xiaohua Deng, Zhigang Yuan, Meng Zhou et al., Structure and kinetic properties of slow-mode shocks associated with magnetic reconnection in the near-Earth

- magnetotail, *Adv. Space Res.*, doi:10.1016/j.asr.2011.03.007, 2011. (SCI)
39. **Deng X. H.** et al., Dynamics and waves near multiple magnetic null points in reconnection diffusion region, *J. Geophys. Res.*, 114,A07216,doi:10.1029/2008JA013197, 2008。 Yuan Z. G., **Deng X. H.** et al., DMSP/GPS observations of intense ion upflow in the midnight polar ionosphere associated with the SED plume during a super geomagnetic storm *Geophys. Res. Lett.* 35, L19110, doi:10.1029/ 2008GL035462, 2008.
 40. He J.-S.,Q.-G .Zong, **X.-H.Deng**, C.-Y. Tu, C.-J.Xiao,X.-G. Wang, Z.-W.Ma, Z.-Y. Pu et al. ,Electron trapping around a magnetic null, *GEOPHYSICAL RESEARCH LETTERS*, VOL. 35, L14104, doi:10.1029/2008GL034085, 2008.
 41. Zhou, M., **X.H. Deng**, S.Y. Li, Y. Pang et al., Observation of waves near lower hybrid frequency in the reconnection region with thin current sheet, *J. Geophys. Res.*, 114, A02216, doi:10.1029/2008JA013427, 2008. Hu Y. H., **Deng X. H.**, Zhou Meng., Tang R. X. Wang J. F., et al., Structures of magnetic null points in reconnection diffusion region: Cluster Observations, *Chinese Science Bulletin*, vol. 53, no. 12 , P. 1880-1886, 2008.
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 43. Zhou, M., **Deng, X.H.**, Pang Y., Li, S.Y.,Wang J. F. et al, Two dimensional simulation of amplitude modulated electron plasma waves, *J. Adv. Space. Res.*, doi:10.1016/j.asr.2007.06.030, 2007.
 44. Yuan Z., **X. Deng**, Y. Pang, S. Li, J. Wang, Alfven waves in a plasma sheet boundary layer associated with near-tail magnetic reconnection, *Chin. Phys. Lett.*, 24(4), 1122-1124, 2007.
 45. Yuan Z. , **X. Deng**, Effects of continuous solar wind pressure variations on the long-lasting penetration of interplanetary electric field during southward interplanetary magnetic field, *Adv. Space Res.*, dio:10.1016/j.asr.2007.02.033, 39, 1342-1346,2007.
 46. Yuan Z., R. Fujii, and S. Nozawa, Y. Ogawa, **X. Deng**, Polar ionospheric disturbances observed by EISCAT radar during magnetic substorms. *Ann. Geophys.*, 2007.
 47. Li S. Y., **X. H. Deng**, et al., Statistical Study of Electrostatic Solitary Waves associated with Reconnection: Geotail Observations, *J. Adv. Space. Res.*, doi:10.1016/j.asr.2008.05.013,2007.
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 49. Yang R. X., **X. H. Deng** et al.,Web-based integrated Space Virtual Lab, Application, *Application Research of Computers*, 2007.
 50. Shu Z. Wen, **X. H. Deng** et al, Web based Computer simulation system in Space Virtual Laboratory, *Computer Engineering and Science* , 2008.
 51. **Deng, X. H.**, Matsumoto, H., Pickett, J.S., Fazakerley, A.N., Kojima H. ,Baumjohann, W., Liu Z. X. , Coates A. and Gurnett, D.A., Electrostatic Solitary waves associated with reconnection observed Cluster and Geotail, *Advances in Space Research* 37 1373–1381, 2006
 52. Zhigang Yuan, Baiqi Ning, **Xiaohua Deng**, Effects of TADs on the F1-region of the mid-latitude ionosphere during geomagnetic storms: A case study. *JGR in press*, 2007.

53. **Deng X. H.**, R. X. Tang R. Nakamura, W. Baumjohann' T. L. Zhang, T. P. W. Daly, C. M. Carr, A. Balogh, Z. X. Liu and H. Reme, Observation of reconnection pulses by Cluster and Double star, *Ann Geophys.*, 23, 2921-2927, 2005.
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55. H. Matsumoto, **X. H. Deng**, H. Kojima, and R. R. Anderson, Observation of Electrostatic Solitary Waves associated with reconnection on the dayside magnetopause boundary, *GEOPHYSICAL RESEARCH LETTERS*, VOL. 30, NO. 6, 1326, doi:10.1029/2002GL016319, 2003. (SCI)
56. **Deng, X. H.**, H. Matsumoto, H. Kojima, R. R. Anderson, T. Mukai and J. F. Wang, Dynamic processes and kinetic structure of collisionless reconnection at the dayside magnetopause: Comparison between GEOTAIL observations and computer simulations, *Annales Geophysicae*, **21**, 1939–1946, 2003.
57. **Deng X. H.** & Matsumoto H., Rapid magnetic reconnection in the Earth's magnetosphere mediated by whistler waves, *Nature*, 401, 557-560, 2001.
58. **Deng X. H.** and Wang J. F.: Three-dimensional nonlinear mode interaction of double-tearing instability, *Journal of Plasma Physics*, 58, part 2, 223, 1997.
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