

Professional Preparation

2002	Ph.D.	Physics	University of Washington
1997	M.S.	Physics	University of Washington
1993	B.S. with distinction	Physics	National Taiwan University

Professional Experience

2005-present	Research Scientist III	Space Science Center, University of New Hampshire
2004-2005	Assistant Research Scientist	Department of Physics and Astronomy, University of Iowa
2002-2004	Postdoctoral Research Scholar	Department of Physics and Astronomy, University of Iowa
1996-2002	Graduate Research Assistant	Department of Physics, University of Washington

Synergistic activities

Li-Jen Chen was the first to construct analytical solutions for 3D electron and ion modes phase-space hole solitons, and to derive macroscopic constraints on these solitons as sets of inequalities. She and her co-workers presented the first experimental evidence for loosely constrained electron holes. She has developed a set of numerical code based on reduced two-fluid formulation to model Alfvén wave propagation from the magnetosphere to the ionosphere. As part of her graduate training, she has taken a significant part in the balloon-borne X-Ray Imager experiment in which she performed laboratory testing of the electronics circuitry and photomultiplier tubes, calibration and assembling of the imagers, and participated in instrument integration and software development for data acquisition.

Relevant Publications:

- Li-Jen Chen, G. K. Parks, M. McCarthy, D. Larson, R. P. Lin, Kinetic Properties of Bursty Bulk Flow Events, *Geophys. Res. Lett.*, **27**, 1847, 2000.
- Li-Jen Chen, D. Larson, R. P. Lin, M. McCarthy, and G. Parks, Multicomponents Plasma Distributions in the Tail Current Sheet Associated with Substorms, *Geophys. Res. Lett.*, **27**, 843, 2000.
- Li-Jen Chen, A. Bhattacharjee, K. Sigsbee, G. Parks, M. Fillingim, and R. Lin, Wind observations pertaining to current disruption and ballooning instability during substorms, *Geophys. Res. Lett.*, **30(6)**, 1335, 10.1029/2002GL016317, 2003.
- G. Parks, L. J. Chen, M. McCarthy, D. Larson, R. P. Lin, T. Phan, H. Reme, T. Sanderson, New observations of ions beams in the plasma sheet boundary layer, *Geophys. Res. Lett.*, **25**, 3285, 1998.
- G. K. Parks, L. J. Chen, M. Fillingim and M. McCarthy, Kinetic Characterization of Plasma Sheet Dynamics, *Space Science Reviews* **95**, 237-255, 2001.
- G. K. Parks, L. J. Chen, M. Fillingim and M. McCarthy, Plasma Behavior during Pseudobreakup and expansive aurorae, *Proc. 5th International Conference on Substorms*, 235, 2000.
- M. O. Fillingim, G. K. Parks, L. J. Chen, M. McCarthy, J. F. Spann, R. P. Lin, Comparison of plasma sheet dynamics during pseudobreakups and expansive aurorae, *Physics of Plasmas*, **8**, 1127, 2001.
- J. S. Pickett, L.-J. Chen, and et al., Shedding new light on solitary waves observed in space, Proceedings of the Cluster and Double Star Symposium–5th Anniversary of Cluster in Space, in press, 2006.
- J. S. Pickett, L.-J. Chen, and et al., On the generation of solitary waves observed by Cluster in the near-Earth magnetosheath, *Nonlinear Processes in Geophys.*, **12**, 181-193, 2005.
- J. S. Pickett, L.-J. Chen, and et al., Isolated electrostatic structures observed throughout the Cluster orbit: Relationship to magnetic field strength, *Ann. Geophysicae*, **22**, 2515, 2004.
- Li-Jen Chen, Jolene Pickett, Paul Kintner, Jason Franz, Donald Gurnett, On the width-amplitude inequality of electron phase space holes, *J. Geophys. Res.*, **110**, A09211, doi:10.1029/2005JA011087, 2005.
- Li-Jen Chen, David J. Thouless, and Jian-Ming Tang, Bernstein-Greene-Kruskal solitary waves in three-dimensional magnetized plasma, *Physical Review E*, **69**, 055401(R), 2004.