

(a) Peer-reviewed Journal Articles

- C.-S. Jao**, S. Vafin, Y. Chen, M. Gross, M. Krasilnikov, G. Loisch, T. Mehrling, J. Niemiec, A. Oppelt, A. M. Ossa, J. Osterhoff, M. Pohl, F. Stephan, Preliminary study for the laboratory experiment of cosmic-rays driven magnetic field amplification, *High Energy Density Physics* 32, 31, 2019.
- C.-S. Jao** and L.-N. Hau, Electrostatic solitons and Alfvén waves generated by streaming instability in electron-positron plasmas, *Physical Review E* 98, 013203, 2018.
- Y. Chen, G. Loisch, M. Gross, **C.-S. Jao**, M. Krasilnikov, A. Oppelt, J. Osterhoff, M. Pohl, H. Qian, F. Stephan, S. Vafin, Generation and characterization of quasi continuous wave electron beams in an L-band normal conducting pulsed RF injector for laboratory astrophysics, *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment* A903, 119, 2018.
- C.-S. Jao** and L.-N. Hau, Fluid theory and kinetic simulation of two-dimensional electrostatic streaming instabilities in electron-ion plasmas, *Physics of Plasmas* 23, 112110, 2016.
- C.-S. Jao** and L.-N. Hau, Two-dimensional electrostatic solitary structures in electron-positron plasmas, *New Journal of Physics* 17, 053047, 2015.
- C.-S. Jao** and L.-N. Hau, Electrostatic solitary waves and hole structures generated by bump-on-tail instability in electron-positron plasmas, *Physical Review E* 89, 053104, 2014.
- C.-S. Jao** and L.-N. Hau, Fluid aspects of electron streaming instability in electron-ion plasmas, *Physics of Plasmas* 21, 022103, 2014.
- C.-S. Jao** and L.-N. Hau, Formation of electrostatic solitons and hole structures in pair plasmas, *Physical Review E* 86, 056401, 2012.
- S.-W. Chiou, L.-N. Hau, J.-B. Nee, **C.-S. Jao**, B.-J. Wang, Y.-F. Chen, W.-L. Teh, S.-H. Chuang, K.-W. Lee, Y.-C. Chou, and Y.-T. Lai, First ground observations of OI5577 Green Line emission over the Taiwan area, *Terrestrial Atmospheric and Oceanic Sciences* 18, 843, 2007.

(b) Oral Presentations

- C.-S. Jao**, Electrostatic and electromagnetic streaming instabilities in the electron-positron plasma, The Eighth East Asian Numerical Astrophysics Meeting, Tainan, Taiwan, 2018.
- C.-S. Jao**, Y. Chen, M. Gross, M. Krasilnikov, G. Loisch, T. Mehrling, J. Niemiec, A. Oppelt, A. M. Ossa, J. Osterhoff, M. Pohl, F. Stephan, S. Vafin, Preparatory simulation studies for the laboratory experiment of cosmic-ray driven magnetic field fluctuations, *IoP Computational Plasma Physics Conference*, York, UK, 2017.
- C.-S. Jao** and L.-N. Hau, Generation of electrostatic solitons in electron-proton and electron-positron plasmas, 18th International Congress on Plasma Physics, Kaohsiung, Taiwan, 2016.
- Y. Kuramitsu, C.-W. Peng, T.-H. Huang, T.-Y. Huang, Y.-L. Liu, N. Khasanah, C.-H. Chen, Y.-L. Chang, Y.-S. Hsieh, S.-C. Liu, H.-H. Chu, J.-P. Wang, **C.-S. Jao**, L.-N. Hau, Y. Hara, Y. Sakawa, H. Takabe, M. Koenig, P. Chen, T. Moritaka, and M. Hoshino, Relativistic laboratory astrophysics with intense lasers: Nonthermal Universe, The 1st Asia-Pacific User Meeting for the Helmholtz International Beamline for Extreme Fields, Shanghai, China, 2016.

- Y. Kuramitsu, T.-H. Huang, C.-W. Peng, T.-Y. Huang, Y.-L. Liu, N. Khasanah, C.-H. Chen, Y.-L. Chang, Y.-S. Hsieh, S.-C. Liu, H.-H. Chu, J.-P. Wang, **C.-S. Jao**, Y. Hara, Y. Sakawa, H. Takabe, and M. Koenig, Relativistic particle acceleration due to turbulent wakefield, 11th International Conference on High Energy Density Laboratory Astrophysics, California, US, 2016.
- C.-S. Jao** and L.-N. Hau, Fluid theory and particle simulation of electrostatic streaming instabilities, 12th International School / Symposium for Space Simulations, Prague, Czech Republic, 2015.
- C.-S. Jao** and L.-N. Hau, A study of electrostatic solitary waves in electron-ion plasmas, Annual Meeting of The Physical Society of Republic of China, Hsinchu, Taiwan, 2015.
- C.-S. Jao** and L.-N. Hau, Some new aspects of the electrostatic streaming instability and the formation of electrostatic solitary structure in space plasma environments, 11th Cross-Strait Space Science Workshop, Tainan, Taiwan, 2014.
- C.-S. Jao** and L.-N. Hau, On the formation of electrostatic solitary waves in electron-positron plasmas, Annual Meeting of The Physical Society of Republic of China, Taichung, Taiwan, 2014.
- C.-S. Jao** and L.-N. Hau, Streaming instability and hole structures in electron-positron plasmas, Annual Meeting of The Physical Society of Republic of China, Hualien, Taiwan, 2013.
- C.-S. Jao** and L.-N. Hau, Electromagnetic particle simulations of Alfvén wave excitation, Annual Meeting of The Physical Society of Republic of China, Changhua, Taiwan, 2009.

(c) Poster Presentations

- C.-S. Jao**, S. Marholm, W. J. Miloch, Numerical study of plasma-object interaction: Debye-scale object, 16th European Space Weather Week, Liege, Belgium, 2019.
- O. Lishilin, P. Boonpornprasert, R. Brinkmann, Y. Chen, J. Good, M. Gross, F. Gräijner, H. Huck, I. Isaev, **C.-S. Jao**, M. Krasilnikov, G. Loisch, A. Martinez de la Ossa, T. Mehrling, A. Oppelt, J. Osterhoff, M. Pohl, H. Qian, C. B. Schroeder, F. Stephan, Overview and prospects of plasma wakefield acceleration experiments at PITZ, The 10th International Particle Accelerator Conference, Melbourne, Australia, 2019.
- C.-S. Jao**, Y. Chen, M. Gross, M. Krasilnikov, G. Loisch, T. Mehrling, J. Niemiec, A. Oppelt, A. M. Ossa, J. Osterhoff, M. Pohl, F. Stephan, S. Vafin, Bell's instability in the laboratory: preparatory investigation, 12th International Conference on High Energy Density Laboratory Astrophysics, Kurashiki, Japan, 2018.
- C.-S. Jao**, Y. Chen, M. Gross, M. Krasilnikov, G. Loisch, T. Mehrling, J. Niemiec, A. Oppelt, A. M. Ossa, J. Osterhoff, M. Pohl, F. Stephan, S. Vafin, Simulation study for the laboratory experiment of Bell's instability, 10th International Conference on Inertial Fusion Sciences and Applications, Saint Malo, France, 2017.
- C.-S. Jao**, Y. Chen, M. Gross, M. Krasilnikov, G. Loisch, T. Mehrling, J. Niemiec, A. Oppelt, A. M. Ossa, J. Osterhoff, M. Pohl, F. Stephan, S. Vafin, Bell's instability in the laboratory: pre-experiment simulation study, 33th International Conference on Phenomena in Ionized Gases, Estoril, Portugal, 2017.
- T.-H. Huang, C.-W. Peng, T.-Y. Huang, Y.-L. Liu, N. Khasanah, C.-H. Chen, Y.-L. Chang, Y.-S. Hsieh, S.-C. Liu, H.-H. Chu, J.-P. Wang, **C.-S. Jao**, Y. Hara, Y. Sakawa, H. Takabe,

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- Y.-W. Huang, L.-N. Hau, B.-J. Wang, and **C.-S. Jao**, Particle simulations of shock waves in magnetized plasmas, Annual Meeting of The Physical Society of Republic of China, Hsinchu, Taiwan, 2015.
- C.-S. Jao** and L.-N. Hau, Evolution of electrostatic structures in pair plasmas, AGU Chapman Conference on Low-Frequency Waves in Space Plasmas, Jeju Island, Korea, 2014.
- C.-S. Jao** and L.-N. Hau, New aspects of electrostatic streaming instability, American Geophysical Union's 46th annual Fall Meeting, San Francisco, US, 2013.
- C.-S. Jao** and L.-N. Hau, Fluid aspects and thermodynamics of bi-streaming and bump-on-tail instabilities as the generation mechanisms of ESW in Earth's magnetosphere, 11th International School/Symposium for Space Simulations, Taoyuan, Taiwan, 2013.
- C.-S. Jao** and L.-N. Hau, Electro-positron hole structures generated by streaming instability, Hualien, Taiwan, Annual Meeting of The Physical Society of Republic of China, Kaohsiung, Taiwan, 2007.
- C.-S. Jao** and L.-N. Hau, Relativistic streaming instability and generation of electrostatic solitary waves, 36th COSPAR Scientific Assembly, Beijing, China, 2006.