Final Scientific and Technical Report for Collaborative Research: Dynamics of Electrostatic Solitary Waves and their Effects on Current Layers

DOE Award Number: DE-FG02-07ER54942

Principal Investigator: Paul M. Kintner (deceased)

The contents of this final report require explanation, as the report cannot be written in a manner consistent with the usual guidelines for a final scientific technical report.

The original PI on this grant was Professor Paul Kintner who passed away November 16, 2010. I, Charles E. Seyler, was asked by the Director of the School of Electrical and Computer Engineering to take over the grant last May and try to fulfill its obligations to the PIs at the lead institution (UNH). I have worked with Professor Kintner over the years and have published joint papers with him on the subject of this grant. Consequently, I was in the best position to carry out the remainder of the grant obligations at Cornell.

When the grant was transferred to me, I immediately contacted the PI, Li-Jen Chen, and asked about the obligations of the Cornell collaboration and what plans Professor Kintner had made had done previously to meet them. I also offered my assistance in the way of contributing to the project in a way that my background would allow. I have considerable experience in interpretation of space-related data and I am somewhat familiar with LAPD. I have also performed plasma simulations related to electrostatic solitary waves, which is more directly related to my expertise. Dr. Chen's response was: " Paul's role is to participate in the solitary wave experiments that we do at LAPD, and offer his experimentalist expertise during the experiments and related discussions. There is still the third experiment in a series of three to be carried out. The date is not set yet." I later indicated that I could devote about two weeks of summer research to the project and asked the UNH group if there was anything that they would like me to do in the way of simulation or involvement in experiments or interpretation. I did not receive a response to this inquiry.

Publications involving Professor Kintner:

B. Lefebvre, L.-J. Chen, W. Gekelman, P. Kintner, J. Pickett, P. Pribyl, S. Vincena, F. Chiang, J. Judy, Laboratory measurements of electrostatic solitary structures generated by beam injection, Physical Review Letters 105, 115001 (2010) doi:10.1103/PhysRevLett.105.115001
<http://prl.aps.org/abstract/PRL/v105/i11/e115001>