NASA's Heliophysics Theory Program - Accomplishments in Last Cycle Ending 2011

* Grebowsky, J joseph.m.grebowsky@nasa.gov NASA Goddard Space Flight Center, Code 695, Greenbelt, MD 20771, United States

Summerlin, E. J. errol.summerlin@nasa.gov NASA Goddard Space Flight Center, Code 672 Greenbelt, MD 20771, United States

NASA's Heliophysics Theory Program (HTP) is now into a new triennial cycle of funded research, with new research awards beginning in 2011. The theory program was established by the (former) Solar Terrestrial Division in 1980 to redress a weakness of support in the theory area. It has been a successful, evolving scientific program with long-term funding of relatively large "critical mass groups" pursuing theory and modeling on a scale larger than that available within the limits of traditional NASA Supporting Research and Technology (SR&T) awards. The results of the last 3 year funding cycle, just ended, contributed to ever more cutting edge theoretical understanding of all parts of the Sun-Earth Connection chain. Advances ranged from the core of the Sun out into the corona, through the solar wind into the Earth's magnetosphere and down to the ionosphere and lower atmosphere, also contributing to understanding the environments of other solar system bodies. The HTP contributions were not isolated findings but continued to contribute to the planning and implementation of NASA spacecraft missions and to the development of the predictive computer models that have become the workhorses for analyzing satellite and ground-based measurements.