MSFC/EV44 Natural Environment Capabilities

L. Neergaard Parker
Jacobs ESSSA Group
Huntsville, Alabama

E. M. Willis and J. I. Minow
MSFC/NASA
Huntsville, Alabama

The Natural Environments Branch at Marshall Space Flight Center is an integral part of many NASA satellite and launch vehicle programs, providing analyses of the space and terrestrial environments that are used for program development efforts, operational support, and anomaly investigations. The space environment capabilities of the Natural Environments Branch at MSFC will be presented. These capabilities include model development, analysis of space and terrestrial related data, spacecraft charging anomaly investigations, surface charging modeling (e.g., Nascap-2k), space environment definition and radiation assessments for electronic parts. All aspects of space and terrestrial design are implemented with the goal of devising missions that are successful from launch to operations in the space environment of LEO, polar, GEO, and interplanetary orbits. We will show examples of recent applications of branch capabilities to NASA missions.