DSC#840

ERS 13

ELECTRON & PROTON COUNT RATES

64-040C-01A SPMS-00063

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1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

When printing, special settings may be required to make the text box appear on the printed output.

Version	Date	Person	Page	Description of Change
01				
02				

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:

http://nssdc.gsfc.nasa.gov/nmc/

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

a. Associated Documents To find associated documents you will need to know the document ID number and then click here.
http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/

b. Core Catalog Materials

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This data set has been restored. There was originally 1 Binary 7-Track, 556 BPI tape. There is one restored tape. The DR tape is a 3480 cartridge and the DS tape is 9-Track, 6250 BPI. The tape was created on a 7094 computer. The DR and DS number along with the corresponding D number and the time spans are as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR03401	DS03401	D02792	1	07/17/64 - 11/29/64

B R I E F D E S C R I P T I O N
64-040C
ERS 13

ERS 13 was a spin-stabilized tetrahedron that weighed 2.1 kg and measured 22.86 cm along each triangular edge. The spin rate was approximately 10 rpm, and power was obtained by solar cells. The satellite carried a scintillation counter and a solid-state detector to measure electrons and protons in the radiation belts. Because of the low (100 mW) transmitter power at 136 MHz, no data were obtained beyond 6 earth radii (40,280 km). The transmission was normal from launch until October 20, 1964, when the transmitter became intermittent. A PAM/FM/PM telemetry system using IRIG (Inter-Range Instrumentation Group) channel 5 was employed.

B R I E F D E S C R I P T I O N
64-040C-01
ERS 13,Charged Particle Detectors

The experiment consisted of (1) a lithium-drifted silicon detector to measure separately electrons above 700 keV and protons between 12 and 23 MeV, and (2) a plastic scintillation counter to measure separately electrons above 3.5 MeV and protons between 39 and 50 MeV in the radiation belts. The photomultiplier tube used with the scintillation counter showed a change in gain around September 27, 1964. Both detector systems were omnidirectional and used logarithmic count rate meters to convert rates into analog signals. Two pulse-height discriminators were used with each detector to provide the four measurements. NSSDC has all the data that now exist from this investigation.

B R I E F D E S C R I P T I O N
64-040C-01A
Electron+Proton Count Rate

This electron and proton count rate data set is on one 7-track, 556-bpi, CDC 3600, binary magnetic tape containing card images. To create these data, the count rates from the four discriminators were scaled from analog strip charts. Each rate channel was sampled for approximately 10 s in sequence. A single rate averaged over this sample period was determined. Both temperature and voltage corrections were made before the subcarrier oscillator frequency was converted to a count rate. Approximately 20,000 data points from over 400 h of data were obtained and put on punched cards. Besides the count rates, the time of year (decimal days), longitude, radial distance, geomagnetic equatorial radius (earth radii), geomagnetic latitude, L shell (earth radii), B/B0, and the card number appear.