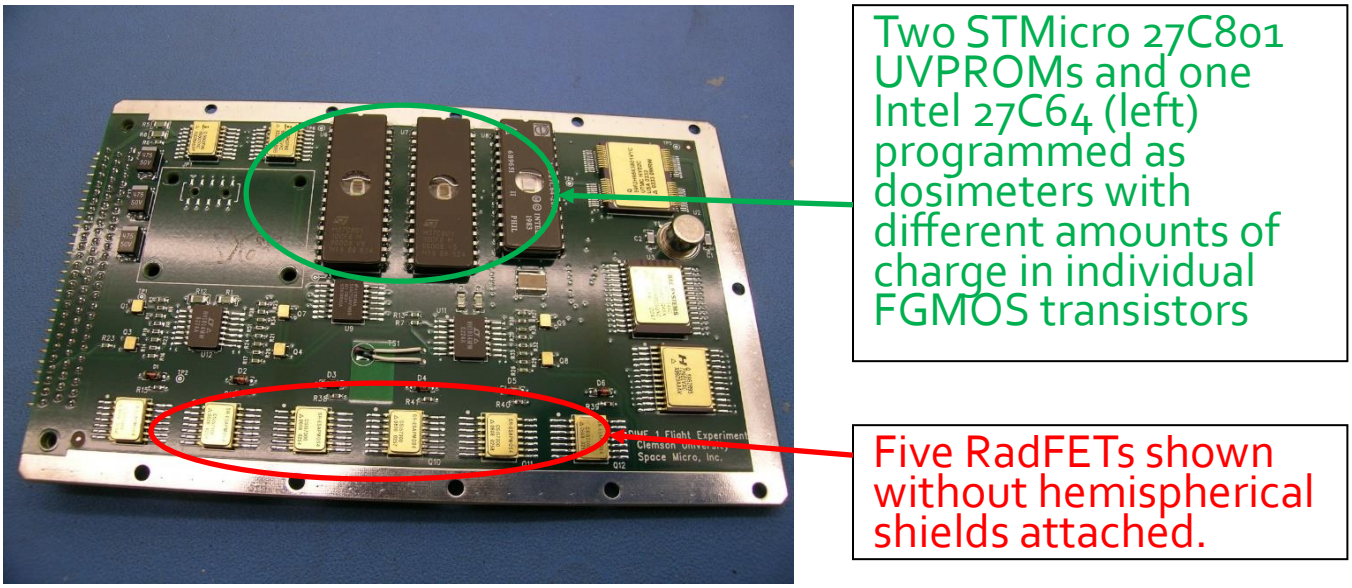
DIME-1 27C801
Mission name: dsx-set_dime1_27C801-1_2019213T200035_v01.csv
Instrument: DIME-1
PI/Provider name: Dr Peter McNulty
Institute: Clemson University
Contact info: email: mpeter@g.clemson.edu
Data format: CSV
Data description (including how measurements were made): Read the standard memory devices and record Total number of 1's. Transmitted as HEX code.
Time resolution/cadence: Readings taken every 15 minutes
Acknowledgement: Supported by NASA awards NNG04EE357C and 0978-204 2014361
Related publications: Most recent NSREC 2021 Conference
Data publishing time: October 2021
Paper DOI or DOI of dataset if available: N/A
Other relevant info:



DIME1 is shown with five operating RadFETS along the bottom of the board and three UVPROM dosimeters. The board has a mass of 0.2 kg and requires < 0.5 W to read the sensors. 27C801-1 is on the LHS of the group and the 27C801-2 lies in the middle in the above picture.

Experimental details 27C801-1

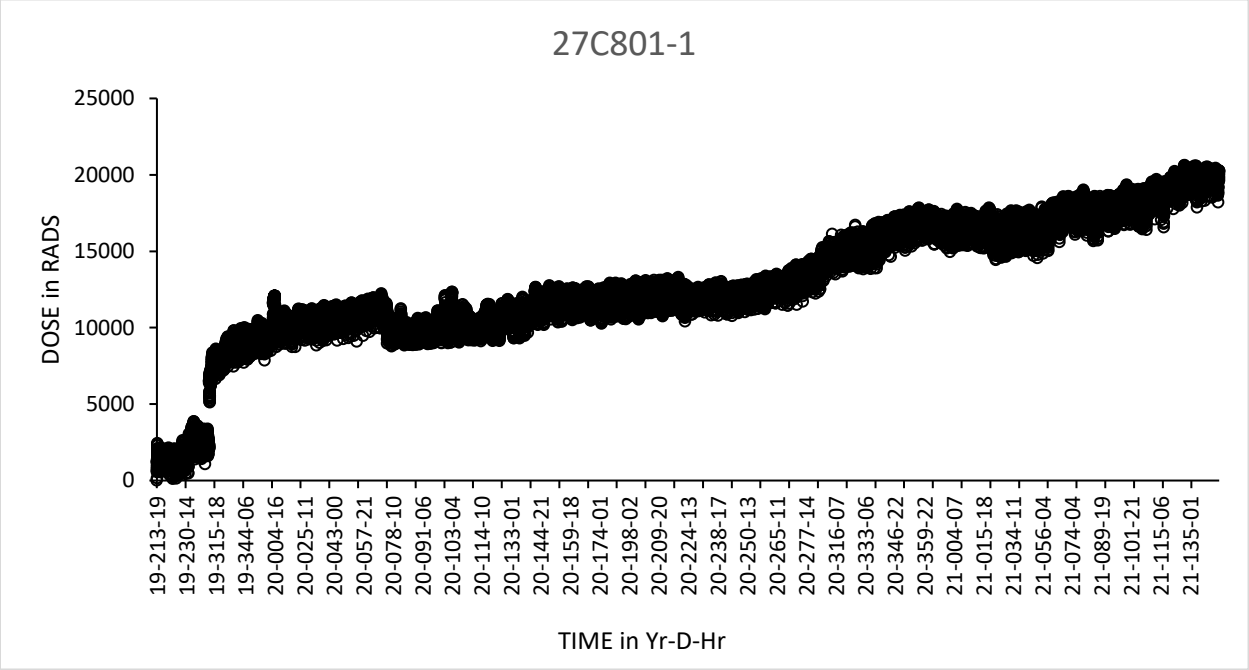
A standard PROM programmed as a dosimeter. The dosimeter is passive and only requires power to read. ALL dosimeter were read every 15 minutes.

An analysis of temperature effect yielded 2028 flips per degree. At doses above 10000Rad the temperature effect was below the variation in readings and no adjustments were made for temperature. The raw data is provided for archiving.

The .sequent files (mainly for the RADFET data) are available to the interested reader, A board temperature is logged every second in COL H should this information be required.

During the 1.75yrs there were many random shut down events and some longer planned power downs. This causes disruptions in data collection and some individual APPS data was corrupted on either the uncontrolled shut down or start up.

A second event corrupting data was caused by the different clocks running data collection on the board and the system clock being out of synch.



The DIME experiment telemetered data is stored at the Nasa Space Physics Data facility (SPDF)

1. P.J. McNulty, K.F. Poole, and J.O. Poole, DIME-2 Flying as Part of NASA's SET-1 Project on the DSX Satellite. Submitted to TNS for publication – Paper H-1 at NSREC 2021.

2. K.F. Poole, P.J. McNulty, and J.O. Poole, DIME-1 Experiment Flying as Part of NASA's SET-1 Project on the DSX Satellite. Submitted to TNS for publication – Poster H-1 at NSREC 2021.