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Paper Title: **Satellite Test of Radiation Impact on Ramtron 512K FRAM**

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Satellite Test of Radiation Impact on Ramtron 512K FRAM

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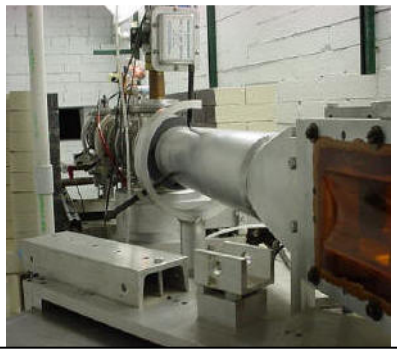
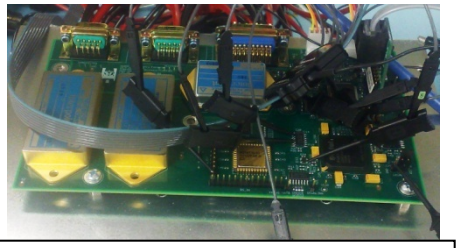
Abstract: The Memory Test Experiment is a space test of a ferroelectric memory device on a low Earth orbit satellite. The test consists of writing and reading data with a ferroelectric based memory device. Any errors are detected and are stored on board the satellite. The data is send to the ground through telemetry once a day. Analysis of the data can determine the kind of error that was found and will lead to a better understanding of the effects of space radiation on memory systems. The test will be one of the first flight demonstrations of ferroelectric memory in a near polar orbit which allows testing in a varied radiation environment. The memory devices being tested is a Ramtron Inc. 512K memory device. This paper details the goals and purpose of this experiment as well as the development process. The process for analyzing the data to gain the maximum understanding of the performance of the ferroelectric memory device is detailed.



Radiation Testing of the MTE at Indiana University



Telemetry Board with the Memory Test Experiment