Project Number**: JAO SR91**

Transient Pulse Monitor

A Major Qualifying Project Report Submitted to the Faculty of

Worcester Polytechnic Institute

in partial fulfillment of the requirements for the

Degree of Bachelor of Science.

By

Emily Briskey **Gaurav Chaturvedi**

Michael Hyde

In Cooperation with

SRI International

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Advisors:

Professor John Orr
Worcester Polytechnic Institute
orr@wpi.edu

John Scimone
SRI International
john.scimone@sri.com

Abstract

This project involved the design of a new Transient Pulse Monitor (TPM) for the recording of key characteristics of lightning strikes and other transient pulses in the vicinity of spacecraft launch sites, to be used in a comprehensive Online Lightning Monitoring System (OLMS). This report documents the design for implementation on Signatec Digitizer boards, using an internal FPGA for processing, a 16-bit ADC to read sensor signals, and a PCI-X bus to interface with a central server. The design was completed using VHDL and Verilog and simulated. Progress was also made in debugging of the code on the physical FPGA.

The complete report will be submitted in D term, 2009 following review by SRI.