

Talk 1: Single Event Effects (SEE) Testing in the United States: The Current State of Facility Access and Considerations Moving Forward

Thursday, 13 June 2024 11:25 (25 minutes)

Abstract:

It has been well-documented that the aerospace community has had difficulty in obtaining sufficient access hours to perform SEE testing¹. The increase in number of “small” and less risk-adverse projects and the associated rise in the use of electronics not necessarily designed for space utilization are primary factors for the limited hours available at SEE test sites being well over-subscribed.

In this presentation, we will discuss the current state of both heavy ion and proton facilities in the United States (U.S.) including current efforts to upgrade existing facilities (heavy ions) or gain additional access (protons).

The second half of the presentation will focus on additional considerations for the future needs for SEE testing focusing on four areas:

- Capability increases need: higher energy testing,
- Capability increases for fault identification: microbeam,
- The challenges of access and sustainment of proton medical sites in the U.S., and,
- The use of alternate means for SEE testing or increased SEE test efficiency.

These considerations are not new as seen in the figure below from 2012, but the ever-increasing hours needed have exacerbated the challenge².

CV:

Mr. LaBel has spent over 40 years working in the aerospace community including his long tenure at NASA. He has supported NSREC and RADECS in a myriad of roles and responsibilities. Has won numerous awards and has provided short courses and invited talks worldwide for his expertise in radiation hardness assurance and space electronics.

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Session Classification: Session 5: Protons and Heavy Ions: The Facilities' View