



SEMINAR ANNOUNCEMENT

TITLE: A Reassessment of Galileo Radiation Doses
in the Jupiter Magnetosphere

PRESENTED BY: Dr. Thomas M. Miller

DATE: Tuesday, September 5, 2006

TIME: 10:00 a.m.

LOCATION: Bldg. 5700, Room O304

Early particle experiments in the 1970s on Pioneer 10 and 11 and Voyager 1 and 2 provided Jupiter flyby particle data, which were used to establish a baseline radiation effects design limit for the Galileo onboard electronics. Recently, actual Galileo electron and proton measurement data were used to estimate the dose received by Galileo, but an average shield thickness of 2.2 g/cm² of Al was assumed. In this presentation the 34-orbit "as flown" Galileo trajectory data were used to compute the total absorbed dose due to electrons and protons based on a parametric shielding configuration. This presentation also focuses on some of the complications experienced using MCNPX to perform the parametric shielding analysis and how these complications were addressed.