

Techniques to develop high radiation tolerant solid state devices and their uses

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ABSTRACT

Designing the solid state electronic devices and components by using the radioactive material for their fabrication(uranium dioxide) and the dielectric isolation process provides the precise level of stability over high temperature range .Recently there was a failure of india's maiden lunar exploration mission in which ISRO used CHANDRAYAAN-1 as a space craft on AUGUST 29 2009.main cause of failure was that of temperature variation(-50c to 120c) which lead the malfunctioning of SENSORS . Lunar spacecrafts had ONBOARD two star sensors with one as a backup to determine the orientation or attitude because of all the malfunctioning they had failed.Use of high radiation tolerant solid state devices and the use Radioactive material in fabrication technology provides suitable measures to avoid such failure of electronics devices by temperature variation.

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