1. Record Nr. UNINA9910138786403321

Titolo	2010 42nd Southeastern Symposium on System Theory
Pubbl/distr/stampa	[Place of publication not identified], : I E E E, 2010
ISBN	9781424456918 1424456916
Descrizione fisica	1 online resource : illustrations
Disciplina	004
Soggetti	Electronic data processing System analysis System theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Sommario/riassunto	Soft errors are caused by cosmic rays striking sensitive regions in electronic devices. Termed as single event upset (SEU), in the past this phenomenon mostly affected the high altitude systems or avionics. The small geometries of today's nanodevices and their use in high-density and high-complexity designs make electronic systems sensitive even to the ground-level radiation. Therefore, large computer systems like workstations or computer web servers have become major victims of single event upsets. Given that the idea of cloud computing is an unavoidable trend for the next generation internet, which might involve almost every company in the IT industry, the urgency and criticality of the reliability rise higher then ever. This paper illustrates how soft errors are a reliability concern for computer servers. The soft error reduction techniques that are significant for the IT industry are summarized and a possible soft error rate (SER) reduction method that considers the cosmic ray striking angle to redesign the circuit board layout is proposed.