1. Record Nr. UNISA996465458703316

Autore	Rocha da Rosa Felipe
Titolo	Soft error reliability using virtual platforms : early evaluation of multicore systems / / Felipe Rocha da Rosa, Luciano Ost and Ricardo Reis
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2020] Â©2020
ISBN	3-030-55704-9
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XI, 136 p. 53 illus., 51 illus. in color.)
Disciplina	621.3815
Soggetti	Processor Architectures Electronics and Microelectronics, Instrumentation Circuits and Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chapter 1 . Introduction -- Chapter 2. Background on Soft Errors -- Chapter 3. Fault Injection Framework Using Virtual Platforms -- Chapter 4. Performance and Accuracy Assessment of Fault Injection Frameworks Based on VPs -- Chapter 5. Extensive Soft Error Evaluation -- Chapter 6. Machine Learning Applied to Soft Error Assessment in Multicoresystems.
Sommario/riassunto	This book describes the benefits and drawbacks inherent in the use of virtual platforms (VPs) to perform fast and early soft error assessment of multicore systems. The authors show that VPs provide engineers with appropriate means to investigate new and more efficient fault injection and mitigation techniques. Coverage also includes the use of machine learning techniques (e.g., linear regression) to speed-up the soft error evaluation process by pinpointing parameters (e.g., architectural) with the most substantial impact on the software stack dependability. This book provides valuable information and insight through more than 3 million individual scenarios and 2 million simulation-hours. Further, this book explores machine learning techniques usage to navigate large fault injection datasets. Describes the most suitable and efficient virtual platforms to include fault

injection capabilities, aiming to support the soft error analysis of state-of-the-art processor models; Includes analysis and port of several benchmarks from embedded and HPC domains, including the Rodinia and NASA NAS Parallel Benchmark (NPB) suites; Introduces four novel, non-intrusive FI techniques enabling software engineers to perform in-depth and relevant soft error evaluation, addressing the gap between the available FI tools and the industry requirements; Explores machine learning techniques that can be used to enable the identification of individual (or combinations of) microarchitectural and software parameters that present the most substantial relation relationship with each detected soft error or failure.

2. Record Nr. UNINA9910557719303321

Autore	Roselli Carlo
Titolo	Geothermal Energy Utilization and Technologies 2020
Pubbl/distr/stampa	Basel, Switzerland, : MDPI - Multidisciplinary Digital Publishing Institute, 2021
Descrizione fisica	1 online resource (350 p.)
Soggetti	Research & information: general Technology: general issues
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	Rising pollution, climate change and the depletion of fossil fuels are leading many countries to focus on renewable-based energy conversion systems. In particular, recently introduced energy policies are giving high priority to increasing the use of renewable energy sources, the improvement of energy systems' security, the minimization of greenhouse gas effect, and social and economic cohesion. Renewable energies' availability varies during the day and the seasons and so their use must be accurately predicted in conjunction with the management strategies based on load shifting and energy

storage. Thus, in order to reduce the criticalities of this uncertainty, the exploitation of more flexible and stable renewable energies, such as the geothermal one, is necessary. Geothermal energy is an abundant renewable source with significant potential in direct use applications, such as in district heating systems, in indirect use ones to produce electricity, and in cogeneration and polygeneration systems for the combined production of power, heating, and cooling energy. This Special Issue includes geothermal energy utilization and the technologies used for its exploitation considering both the direct and indirect use applications.