

# EMBEDDED SYSTEMS RELIABILITY



## Présentation

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### Description

Cours :

Chapter I: Background

1. Processing Systems Families
2. Microprocessor, from code to execution
3. FPGA Architecture
4. CMOS Circuit design
  - 4.1. Memories
  - 4.2. Combinational Elements
5. Reliability-related Definitions

Chapter II: Errors & Degradations Mechanisms

1. Aging-related degradation mechanisms
2. Soft Errors
3. Masking Phenomena
4. AVF and reliability models (SER)
5. Fault injection mechanisms

Chapter III: Reliability Enhancement Techniques

1. Reliability Enhancement of SRAM memories
2. Reliability Enhancement of Processing Elements
3. Reliability Enhancement of Multiprocessor System On Chip (MPSoCs)

TD : Reliability assessment of components and devices.

TP : Reliability assessment of a CPU based on fault injection in a simulation platform ( SimpleScalar / Sniper ...)

## Infos pratiques

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### Lieu(x)

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