

Transient and permanent error control for networks-on-chip

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Abstrak

This book addresses reliability and energy efficiency of on-chip networks using cooperative error control. It describes an efficient way to construct an adaptive error control codec capable of tracking noise conditions and adjusting the error correction strength at runtime. Methods are also presented to tackle joint transient and permanent error correction, exploiting the redundant resources already available on-chip. A parallel and flexible network simulator is also introduced, which facilitates examining the impact of various error control methods on network-on-chip performance.