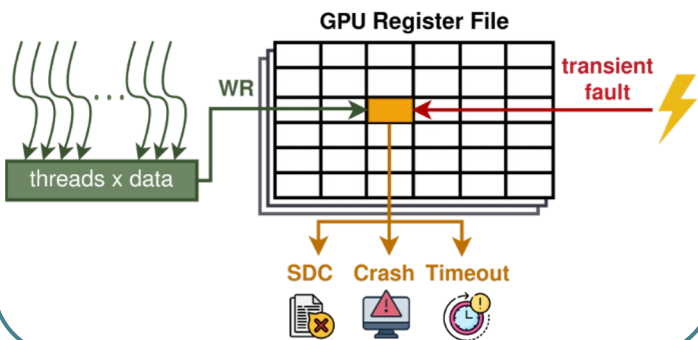


Vortex-RFT: An RTL Fault Injection Framework & ECC Support for Reliability Analysis of GPU Register Files

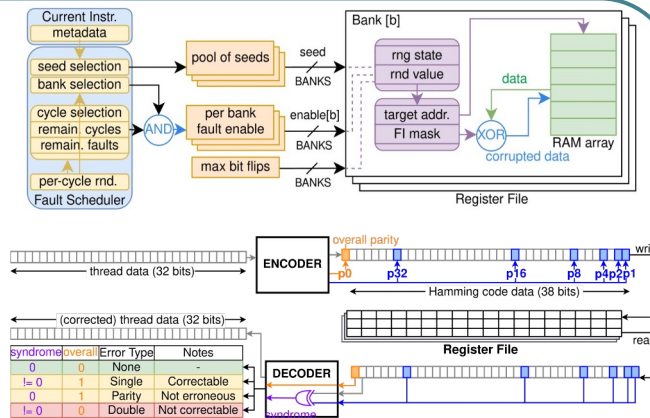
Maria Zerva · Negin Mahani · Osman S. Unsal

Today:

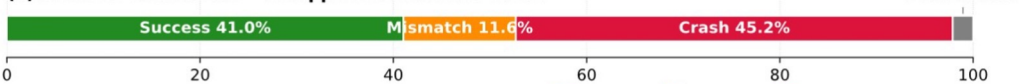


Vortex-RFT:

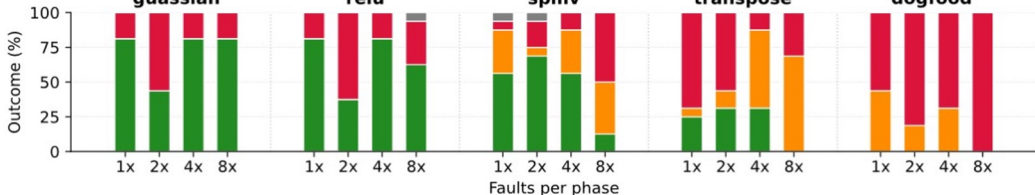
- 1) Phase-based Scheduling
- 2) Seeded RF Targeting
- 3) Configurable FI Model
- 4) SECCED ECC Protection



(a) Overall FI outcomes — all applications and FI levels



(b) Representative application outcomes



Characteristic	Success	Mismatch	Error
memory intensity	0.0123	0.4938	-0.2583
register pressure	-0.5354	-0.0445	0.6122
register reuse ratio	-0.5970	-0.0297	0.6729