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Characterization of the Impact of Soft Errors on Iterative Methods

Objectives

- Systematically characterize the behavior of iterative methods in the presence of soft errors

Impact

- Help understand the vulnerability of iterative solvers
- Aid the design of fault injection campaigns to ensure systematic coverage
- Useful resource to test hypothesis relating to the runtime behavior of iterative solvers, develop new solutions that exploit the observed behavior

Accomplishments

- Comprehensive injection experiments
- Public access to the results of ~1.7 million experiments
- Aiding SDC detector design

