

Soft-Error-Aware SRAM With Multinode Upset Tolerance for Aerospace Applications

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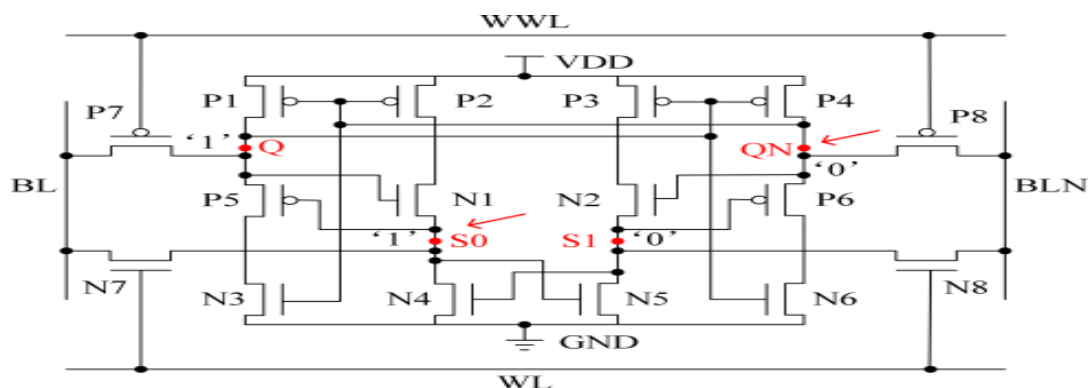
Problem Statement:

Develop a soft-error-aware SRAM design that can tolerate multinode upsets to ensure reliable memory performance in aerospace applications where radiation-induced errors are prevalent.

Theory/Description:

This study presents the design and simulation of a soft-error-aware SRAM with multinode upset tolerance for aerospace applications. By incorporating advanced error correction codes (ECCs) and redundancy, the design detects and corrects multinode errors efficiently. Simulations validate its high reliability and low power consumption, ensuring stable operation in radiation-prone environments

Circuit Diagram:

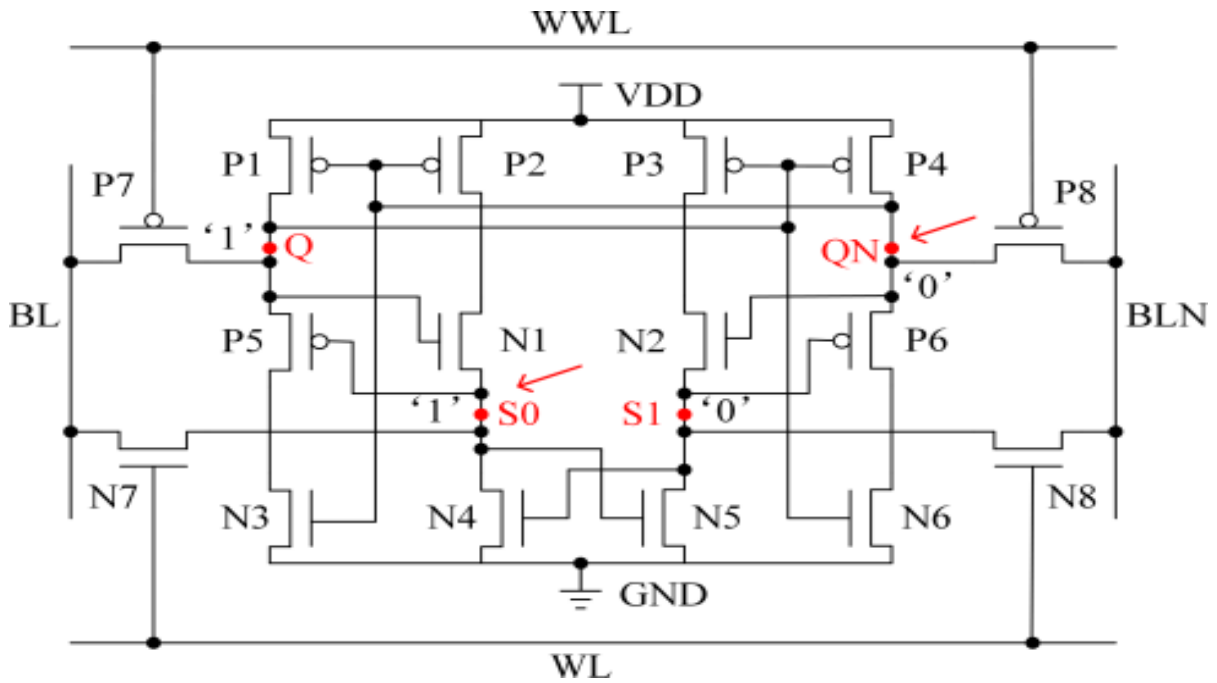


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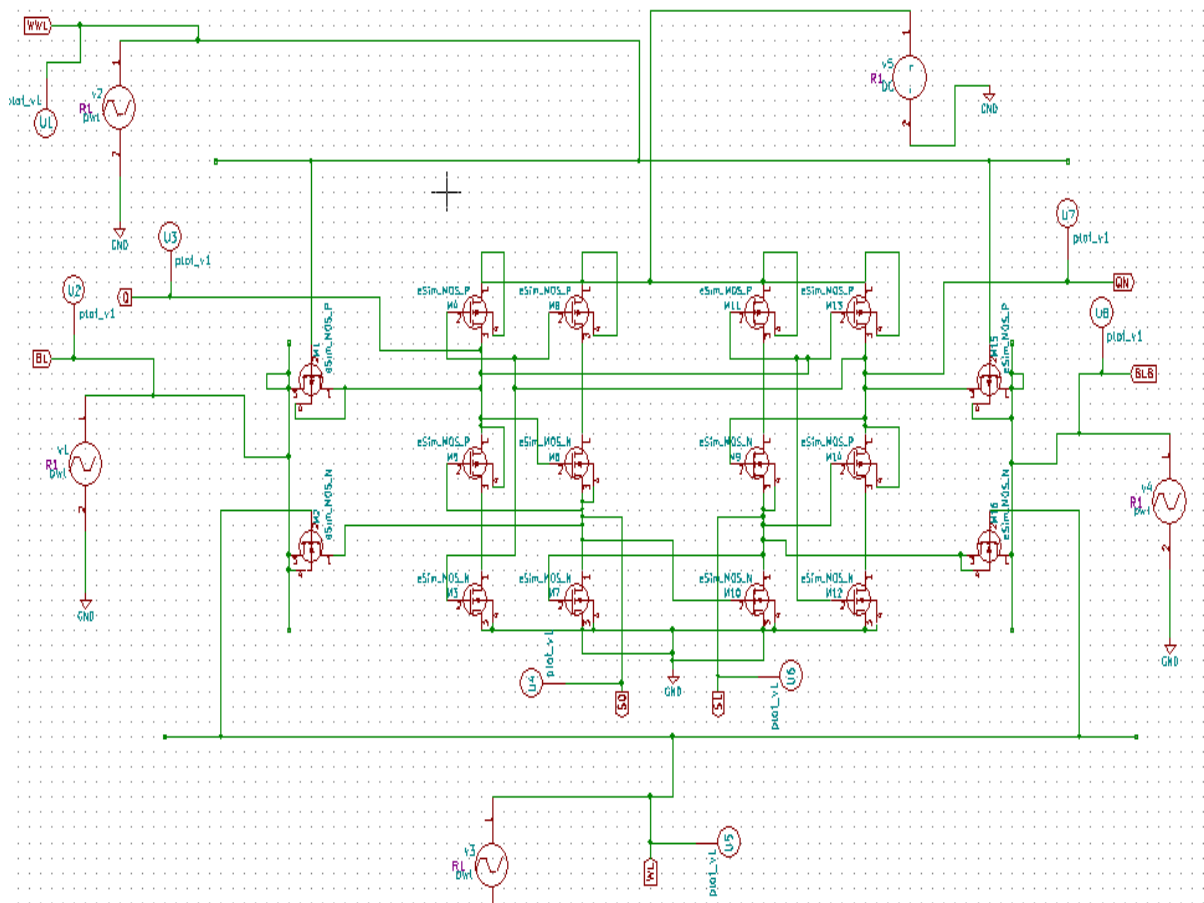
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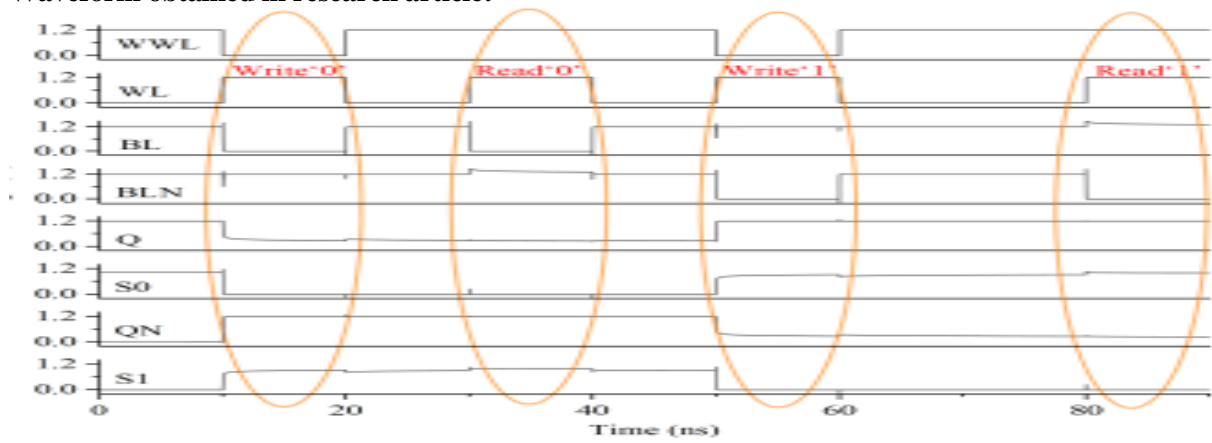
Circuit implement in the research article:



Same circuit implemented in eSim:



Waveform obtained in research article:



Waveform obtained in eSim:

