

## Summary of Changes

Dear Associate Editor,

Below is an item-by-item response to the comments provided by the reviewers for the second revision.

Reviewer 1:

- *I believe that setup and hold times and CLK-Q delay (as well as D-Q delay) are important as key parameters.*
  - The setup and hold times have both been characterized for each design. The results are given in Table 1. As can be observed from the table, the results for the two proposed methods HRDNUT (for double node upsets) and TNU-Latch (the proposed method for triple node upsets) compare favorably to existing designs.
  - Section 5 Paragraph 2: The first sentence has been modified to state that the setup and hold times were characterized. Two sentences were added to the middle of the paragraph to state that the setup and hold times were characterized on a falling edge and that a setup or hold time violation could cause data to not be latched.
  - Section 5 Paragraph 3: A sentence was added that states that the proposed HRDNUT latch for double node upsets has comparable or better setup and hold times to existing DNU designs. The 2<sup>nd</sup> from last paragraph in Section 5 compares extensively the HRDNUT to existing designs in terms of power consumption, area, propagation delay, setup and hold times. It justifies its superiority for clock gating applications.
  - Section 5 Paragraph 4: A sentence was added acknowledging that the setup and hold times for the TNU-latch, the first triple node upset tolerant latch, are higher than most designs. However, that is to be expected due to the higher power, delay and area overheads. The following sentence points out that the TNU-latch still has lower setup time than that of DONUT [13] and a hold time equal to the DICE latch [4].

Reviewer 2:

- *I just think that a small explanation in the text of the function of the "input" signal of figure 7 could increase the clearness of the text simplifying the understanding of the picture and the following part of the text.*
  - Section 3 Paragraph 1: A sentence was added that states that the input is used to load data to the block
- I found a typo on page 3 line 46: "... an error a(re) called robust..."
  - This typo along with others were fixed

Reviewer 3:

- *The authors have done a good job of addressing the reviewer comments. I am satisfied with the revision.*
  - All of this reviewer's concerns were addressed in the previous revision.