

Abstract Submitted
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An Analytical Model to understand Clustering on a NISoC device. JOEL SARONI, University of Dallas — The Neutron Intercepting System on a Chip (NISoC) has the ability to count and image neutrons through boron-10 capture ($n + {}^{10}\text{B} \rightarrow {}^4\text{He} + {}^7\text{Li}$) interactions. The resultant ions cause charge loss in the devices capacitors. Each NISoC contains 2^{31} pixels that can be flipped by an interaction. Clustering is an effect where multiple pixels are flipped in close proximity indicating multiple interactions within the same area. An analytical framework will be presented to distinguish clusters of pixels resulting from a single neutron interaction from neighboring pixels resulting from multiple neutron interactions.

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