

Stick Diagram Representation for Nanomagnetic Logic Based Combinational Circuits

Neha Oraon, Madhav Rao

Abstract— Nanomagnetic logic (NML) is considered as the most promising post CMOS technology to realize system on chip (SoC) applications. In NML, the magnetostatic interactions evolve to a domain orientation, which is viewed as a logical level. The NML is based on the single domain behavior of the dots, and combinational circuits are realized by arranging the dots in ferromagnetic and antiferromagnetic order in a plane. Stick diagram in CMOS technology not only provides topographical and mask layer information, but also presents a quick footprint estimation of the designed subsystem. In this paper, ML based full adder circuit is designed in OOMMF, a micromagnetic simulation tool, and stick diagram representation for NML technology is proposed to design higher order digital subsystem.

For the published version of record document, go to:
<http://dx.doi.org/10.1109/NANO.2018.8626369>

