Investigation of Fast Switched CMOS Inverter using 180nm VLSI Technology

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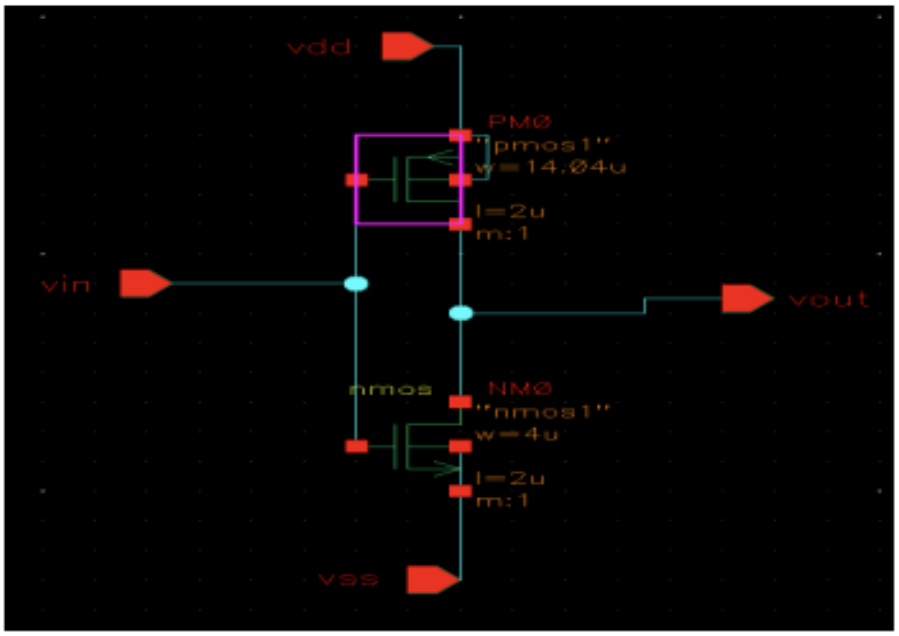
Title of the circuit : Design and Simulation of CMOS Inverters for Improved Switching Performance using eSim

Problem Statement :

The primary objective of this study is to analyze the transient and DC characteristics of a CMOS inverter, a fundamental building block in digital electronics. Specifically, the focus is on understanding the impact of varying feature sizes (length and width of transistors) on the voltage transfer characteristics and switching action of the inverter. The switching behavior, including the rise and fall times during transitions between high and low states, will also be examined. Additionally, the study explores the possibility of paralleling CMOS inverters to increase power for driving higher current loads.The goal is to gain insights into optimizing CMOS inverter design for improved performance and switching efficiency in real-world applications.

Circuit Diagram :



Source/Reference(s) :

- **Title of the paper :** Investigation of Fast Switched CMOS Inverter using 180nm VLSI Technology
- **Name of the journal/publication :** International Journal of Computer Applications
- **Author(s) :** Navneet Kaur, Gurpurneet Kaur, Chahat Jain
  (Guru Nanak Dev Engineering College, Ludhiana)
- **Chapter volume pages :** Volume 51 - Number 15
- **Link:**https://www.ijcaonline.org/archives/volume51/number15/8117-1740/