

# Accepted Manuscript

Impact of Channel Thickness and Spacer Length on Logic Performance of p-Ge/n-Si Hybrid CMOSFETs for ULSI Applications

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PII: S0749-6036(17)30861-3

DOI: 10.1016/j.spmi.2017.05.020

Reference: YSPMI 4999

To appear in: *Superlattices and Microstructures*

Received Date: 08 April 2017

Accepted Date: 07 May 2017

Please cite this article as: Suchismita De, Suchismita Tewari, Abhijit Biswas, Abhijit Mallik, Impact of Channel Thickness and Spacer Length on Logic Performance of p-Ge/n-Si Hybrid CMOSFETs for ULSI Applications, *Superlattices and Microstructures* (2017), doi: 10.1016/j.spmi.2017.05.020

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**Highlights**

- Logic performance of HCMOSFET comprising p-Ge & n-Si MOS devices is reported.
- Effects of channel thickness and spacer length on HCMOSFET parameters are studied.
- Rise time for HCMOS inverters reduce significantly compared to Si inverters.
- HCMOS based ring oscillator exhibits much higher frequency of oscillations.
- HCMOSFET outperforms its Si counterpart for logic circuit applications.

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