

EE582: Nanoelectronics
Review Assignment:

Both silicon-on-insulator MOSFET and high K-dielectric gate MOSFETs are considered an improvement on the regular bulk silicon MOSFETs specially for very short channel devices. In this assignment read about these two new technologies and write two to four page report comparing:

1. SOI MOSFET technology to bulk MOSFETs: advantages and disadvantages. Explain why a fully depleted SOI MOSFETs work whereas full depletion between the source and drain in bulk MOSFETs is considered a problem.
2. High K-gate MOSFET technology: How it works, advantages, drawbacks, and how their performance compares with bulk MOSFET.

All sources and papers (including web sites) used in writing the report should be included as references.