Abstract Submitted
for the APR07 Meeting of
The American Physical Society

Effects of Concentration and Energy Distribution of Electronic Interface Traps on Electrical Characteristics of Metal-Oxide-Silicon (MOS) Capacitors and Transistors.[1] BIN B. JIE, IME Peking University, ZUHUI CHEN, Sah Pen-Tung Center, Xiamen University, CHIH-TANG SAH, University of Florida — Electronic traps, or electron and hole traps, at the interface of oxidized silicon pose increasing limits on the performances and endurance of metal-oxide-silicon capacitors and transistors and integrated circuits for digital, analog, and memory applications. Effects of increasing concentration and broad energy distributions of electronic interface traps on the lineshapes of the high and low frequency capacitance and dc recombination current characteristics as a function of gate voltage or surface potential are described and compared with experiments.

[1]Contributions of BBJ and ZHC are supported by CTSA founded by Linda Su-Nan Chang Sah.

Chih-Tang Sah
University of Florida

Date submitted: 12 Jan 2007 Electronic form version 1.4