



Embedded Electrical and Computer Engineering

MASTER ORAL DEFENSE

TITLE: Design of on Chip Temperature Monitoring in 90nm CMOS

PRESENTER: Mojan Norouzi

TIME & DATE: 8 AM, December 17st, 2010

LOCATION: SCI 256

COMMITTEE CHAIR: Dr. Hamid Mahmoodi

COMMITTEE MEMBERS: Dr. Hamid Shahnasser

ABSTRACT

This talk presents a novel integrated design of on chip temperature monitoring sensor in 90nm CMOS technology for a wide range of temperature variation. Modern VLSI designs experience significant temperature change due to variations in workload and ambient conditions. The change in temperature can cause variation in other performance parameters such as power and reliability. Modern chips use complex self-calibration techniques to adjust design parameters to safeguard the chip's operation against temperature fluctuations. Any on-chip self-calibration system needs a temperature monitoring to observe the temperature of the chip at the spot of interest.