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**ELECTRICAL & COMPUTER
ENGINEERING**
TEXAS A & M UNIVERSITY

SEMINAR

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A Phaser-Based Real-Time CMOS Spectrum Sensor for Cognitive Radios

by

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Abstract: Real time spectrum sensing can be useful for cognitive radio (CR) devices to detect primary signals without the need for a receiver, reducing complexity and false detection. In this paper, an integrated CMOS real time CR spectrum sensor in 57-354 MHz frequency band with a new integrable phaser is presented, which is the first real time spectrum sensor applicable to radio frequency integrated circuit (RFIC) area. The integrated chip has been fabricated in a standard 0.18 μ m CMOS IBM technology and draws 11 mA from a 1.8 V supply voltage.

Paria Sepidband received the B.Sc. degree in electrical engineering from University of Tehran, Tehran, Iran, in 2010. She received the M.Sc. degree in electronics engineering from Sharif University of Technology, Tehran, Iran, in 2012. She is currently working toward the Ph.D. degree in electrical and electronics engineering at Texas A&M University, College Station, TX, USA. Since January 2013, she has been working as a Research Assistant at the Analog and Mixed Signal Center, Texas A&M University, College Station, TX. Her research interests include cognitive radio receivers and spectrum sensors, and ultra-wideband receivers.