

## THURSDAY November 13, 2008

### Recent Advances in Microwave Frequency Synthesizers: Will YIG Survive?

Speaker: Dr. Alexander Chenakin, Phase Matrix Inc.

Time: Refreshments at 6:00 PM; Presentation at 6:30 PM

Cost: none

Place: National Semiconductor, Building 9, Room 4, 2900 Semiconductor Dr, Santa Clara

RSVP: not required

Web: [www.ewh.ieee.org/r6/scv/mtt](http://www.ewh.ieee.org/r6/scv/mtt)

**Dr. Alexander Chenakin** is the Director of the Frequency Synthesis Group at Phase Matrix, Inc. He earned his degree from Kiev Polytechnic Institute, Ukraine and has worked in a variety of technical and managerial positions. He has led the development of advanced products for Celeritek, Nextek, Micro Lambda Wireless, General Electronic Devices, and other companies. In 2005 Dr. Chenakin joined Phase Matrix, Inc. where he oversees the development of advanced frequency synthesizer products for test & measurement applications. His professional achievements have been widely presented in professional magazines and international conferences. Dr. Chenakin was a lecturer for the 2008 IEEE International Frequency Control Symposium tutorials.



Microwave frequency synthesizers have been continuously evolving and will continue to do so with time. The major technology challenge is in increasing the synthesizer tuning speed as dictated by the ongoing increase of the data throughput of modern microwave Test and Measurement systems. Historically, high-performance PLL synthesizers have relied on YIG-tuned oscillators featuring broadband operation and excellent phase noise characteristics. However, today's market requirements demand that new synthesizers must be faster, smaller and cheaper; simultaneously their other characteristics (e.g., resolution, phase noise, and spurious) must be kept unaffected. This presentation addresses recent advances in VCO-based synthesizers, which offer microsecond tuning speed together with comparable spectrum purity of the lower-speed YIG-based designs.

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