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Tuesday, May 14, 2019

Airborne Radar and The Application to Other Industries

Michael Valdovinos



Michael Valdovinos is a Raytheon Chief Engineer with over 25 years of experience in airborne radar. Over these years, his primary role has been that of a systems engineer, where he has influenced the implementation of many radar products, including those used on B-2, F-15C/D/E/F and F-18E/F AESA radar systems. In his earlier years at Raytheon, formally Hughes Aircraft Company, he was an integral part of the evolving electronically scanned arrays technologies in both Antenna and Receiver/Exciter designs. The results of this work were foundational to several radar product lines at Raytheon and their operational application on various platforms. In recent years, Mike shifted his career to the development and application of products that provide tamper protection. In this role, he led teams of engineers to define, develop, integrate and

deploy new technologies for the protection of critical program information resident in radars. The protection technologies address known threats including those related to cyber-security. Mike has a Master's from UCLA in Electrical Engineering with an emphasis in Electromagnetics and Bachelor's in Electrical Engineering from Cal Poly Pomona.

Presentation abstract:

Since the development of electromagnet theory by James Clerk Maxwell and eventual experiments proving radio waves reflect off of metallic objects by Heinrich Hertz, the application of Radar has been evolving tremendously throughout the 20th and 21st centuries. Now, virtually a century later after the first application of a ship detection device by Christin Hulsmeyer, uses of radio waves have become a stronghold in the application of image generation and guidance systems, especially with the evolution of digital signal processing and phase altering technologies within current advanced electronically scanning antennas. Raytheon is recognized as a world leader in radar technology having applied the principles of radar techniques in various systems that provide precision data at exactly the right time. Applications of these techniques are used in various airborne platforms and ground systems giving the end user a full cognizant of their environments. In this presentation, the fundamentals of pulse radars will be discussed and their application in airborne radar system that track targets and create precise imagery. Further insight will be offered on how the application in other industries has stemmed from the radar applications in airborne systems.



The schedule:

- 5:30 p.m. – 6:45 p.m. Registration / Socialize / Enjoy provided refreshments
- 7:00 p.m. – 8:30 p.m. Feature Presentation

Special note: All attendees must be US Persons (citizen or permanent resident) and register ahead of the event by Sat. May 11 following this link: shorturl.at/fryT7 . All attendees should arrive and check in with security by 6:45 PM to ensure access to the event – no late arrivals will be permitted.

Additional details will be posted to the SAE SoCal Facebook page as well as www.saesocal.org

Please remember that our SAE SoCal section is 100% volunteer run. We welcome engineers of all experience levels to get involved. Board meetings are typically held at 6:00 pm on the first Tuesday of each month. Contact Yassaman Tarazkar info@saesocal.org for more info.