



Presentation on Optical Communications, March 1st

Topic: Performance of a 10 Gbps Free Space Optical Communication System Implementing Novel Beam Tracking and a Buffered Modem

Abstract:

Free Space Optical Communication (FSOC) links provide ultra-high line of site (LOS) bandwidth with no RF spectrum interference. Challenges in laser-based FSOC include acquisition of the beam, atmospheric turbulence induced scintillation, and beam wander. Traditional signal fade mitigation techniques will be discussed such as spatial diversity or adaptive optics. Harris has developed a high dynamic range 10 Gbps optical modem with a data buffer to mitigate packet loss over highly scintillated FSO links. Salient performance characteristics of the FSOC system including application test cases such as MPEG-4 video and voice will be presented.

About the Presenter:

Mr. Robert Peach, a Georgia Tech ECE alum, has worked within the Harris-GCS Photonics Core Technology Center for the last 8 years and supports various efforts within the Advanced Science and Technology, National, and Space business areas. He has had 13 years of experience performing development and project engineering roles with a focus on optical communication systems. He is the Principal Investigator for free space optical communication systems. His other work includes investigation of 40/100G optical systems, microwave photonic systems, radiation tolerant optical transceivers, and quantum key distribution.

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11 am, Van Leer C340

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