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Ted Rogers[??] and Qing Wang[??]

[1] SPAWAR Systems Center, Pacific, San Diego, CA, USA
[2] Naval Postgraduate School, Monterey, CA USA

Trident Warrior 2013 (TW-13) resulted in the collection of *in situ* meteorological data from a varieity of sources (including an unmanned aerial vehicle or "UAV"), fields generated by numerical weather prediction (NWP) modeling, and received power from opportunistic emitters such as broadcast television and radio stations. The overarching question was to determine the impact of data sources and processes (e.g., assimilation of the UAV data into the NWP) in predicting EM propagation. But an underlying question is how useful opportunistic EM propagation observations would be making such discriminations since (a) their system parameters (e.g., cable losses) may be poorly know or not known at all, (b) the effect of terrain on the portions of the transmission path that is overwater is imperfectly know and (c) the terrain (and in some instances, the transmitting antenna patterns) are azimuth-dependent.

In this talk we explore the spatial and temporal characteristics of the differences (ϵ) between modeled propagation loss and propagation loss inferred from the observed power associated with the opportunistic emitters. The exploration takes into account the following expected behaviors:

1. The of component of ϵ arising from the uncertainty in the characterization of the transmission links is expected to be to time-independent but have dependencies on both the azimuth from the emitter to the ship and and the relative bearing to the trasmitter to the emitter referenced to the heading of the ship.

2. Biases in the characterization of the refractive environment arising from model error (in the case of NWP) or aliasing in the case of in-situ sampling would be expected to result in range-dependent biasing in the associated propagation loss calculations based on them.

With this in mind, we utilize standard statistical tools to determine the degree to which the opportunistic EM observations can be used to discriminate between sources of information for making propagation estimates. We also assess the degree – and with what assumption – we can mitigate the uncertainty in the characteristics of the emitters.