Recent Advancements in Dynamic Cruise Missile Modeling

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Date: Friday, February 12, 2016
Time: 9:00 – 10:00 AM
Location: 358 Willard Blg.

Coffee and donuts will be provided

Abstract:

US adversaries first developed and used anti-ship missiles during WWII. These early guided missiles were controlled using radio commands. Since then, missile guidance technologies became more sophisticated and use multiple sensors to improve lethality. The US Navy has developed a range of weapons capabilities to defeat anti-ship guided missiles. However, the need to study our adversaries’ complex systems more thoroughly has driven changes in anti-ship cruise missile models and their integration into dynamic simulations. These studies support engineering design and tactics development of air and missile defense systems aboard US Navy ships. The author will discuss this analysis process, including developing better aerodynamic and propulsion models for use in 6-DOF simulations, and how they evolve into a threat assessment architecture.

Bio:

Brian Battaglia leads the Threat Analysis and Advanced Studies team at the Johns Hopkins University Applied Physics Laboratory (APL). In 2007, Brian graduated with a MS in Aerospace Engineering from Penn State, where he researched partially-cavitating hydrofoil design. Since then, he has worked in Navy air and missile defense, where his primary focus has been on assessing and modeling the anti-ship cruise missiles of our adversaries and developing new and innovative strategies and systems to defend Carrier Strike Groups from attack. He has expertise in software development using MATLAB, Simulink and Python. He is the project manager and lead engineer for the Navy Aerial Targets Program.