

Defense Systems

DIGEST

12 MARCH 2019 – THE LATEST FROM DEFENSE SYSTEMS INFORMATION ANALYSIS CENTER



NOTABLE TECHNICAL INQUIRY

What are the implications of filling a warhead with ALIMX-101 vs. PBXN-109?

DSIAC staff provided information for the better understanding of the implications of filling a large warhead with ALIMX-101 vs. PBXN-109. A DSIAC energetics subject matter expert (SME) provided a short description of the rationale for the DoD transition from cast-cure PBXN to the maturing... [Read More](#)

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FEATURED NEWS



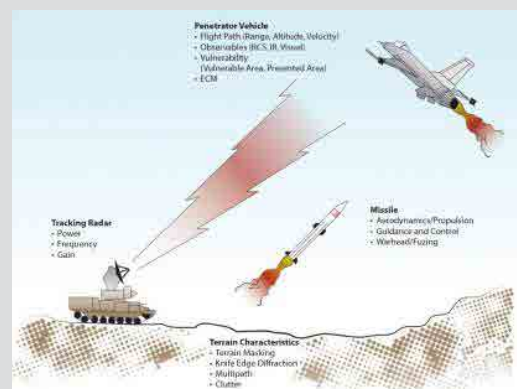
Electronic Warfare on the Ground

The Pentagon defines Electronic Warfare (EW) as military action involving the use of electromagnetic energy and directed energy to control the electromagnetic spectrum or to attack the enemy. EW consists of three divisions: electronic attack, electronic protection, and electronic support. EW is employed to create decisive, stand-alone effects or to support military operations by generating various levels of control, detection, denial, deception, disruption, degradation, exploitation, protection, and destruction. While its early history is debated, the first known use of an EW capability... [Read More](#)

MODEL OF THE MONTH

ESAMS – Enhanced Surface-to-Air Missile Simulation (ESAMS) is a computer program used to model the interaction between an airborne target and a surface-to-air Missile (SAM) air defense system. This simulation provides a one-on-one framework used to evaluate air vehicle survivability, estimate effectiveness, set requirements, and develop tactics.

[Get this model!](#)



VOICE FROM THE COMMUNITY



Maciej Noras, Ph.D., Associate Professor, UNC Charlotte

I am an associate professor at the University of North Carolina (UNC) at Charlotte. My research focuses on detection and applications of electric fields, high voltage engineering, development of instrumentation and sensor devices, power electronics, energy harvesting, electric power monitoring, dielectric studies, and finite element analysis modeling of multiphysics processes. My most recent DoD projects involve collaboration with the U.S. Army Research Laboratory on electric field-based projectile detection and a Small Business Innovation Research grant on topology optimization for lightweight 3D printed laser mirrors. My current work focuses on control of combustion processes using electric and magnetic fields, refinement of the electric field sensor technology invented at the UNC Charlotte Laboratory for Instrumentation, Sensors and Power Electronics, and development of new micro-PMU systems for microgrids.

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UPCOMING EVENTS

Airborne ISR & C2 Battle Management

12 March 2019 to 14 March 2019

Counter UAS – USA

12 March 2019 to 14 March 2019

Military Radar Summit

12 March 2019 to 14 March 2019

DoD Unmanned Systems Summit

13 March 2019 to 14 March 2019

► Want your event listed here? Let us know!

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DSIAC JOURNAL WINTER 2019



Modular Human Surrogate for Non-Lethal Weapons (NLW) Testing

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- American “Astrologistics”
- Active Electronically Steered Array (AESA) Antenna Testing
- Sustainable Mobile Electrical Infrastructure
- Measuring Combustion Products in Small Arms Blowback Gases



► Have an idea for a topic? Please contact us to write an article!

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DIRECTED ENERGY

High-Power Military Lasers: The Pentagon's Laser Weapon Plans Expand



ENERGETICS

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MILITARY SENSING

Raytheon Will Participate in Army Missile Defense Radar "Sense-Off"



NON-LETHAL WEAPONS

The Ingredients Powering the DoD's New Non-Lethal Weapons



RMQSI

MIT Researchers Create Plane That Flies Without Any Moving Parts



SURVIVABILITY AND VULNERABILITY

Meet the M1A2C Abrams: The U.S. Army's New Tank



WEAPON SYSTEMS

America Has Revamped Their Trident Nuclear Missiles

WEBINAR: UAS PROPULSION



Join us for a live webinar presentation on Purpose-Built UAS Powerplants for Today's Mission Objectives.

Wednesday 27 March 2019 – 12:00 to 12:45 p.m. EST

Adapting the proper engine to align with the operational objectives of the unmanned aerial system (UAS) airframe is not a singular consideration. Developing powerplants with proven performance and reliability, to include multi-modal interface by design, is a critical consideration for delivering high consequence mission success that is essential in tomorrow's unmanned battlefield. [Read More](#)

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Defense Systems Information Analysis Center
4695 Millennium Drive, Belcamp, MD 21017
Phone: 443-360-4600
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