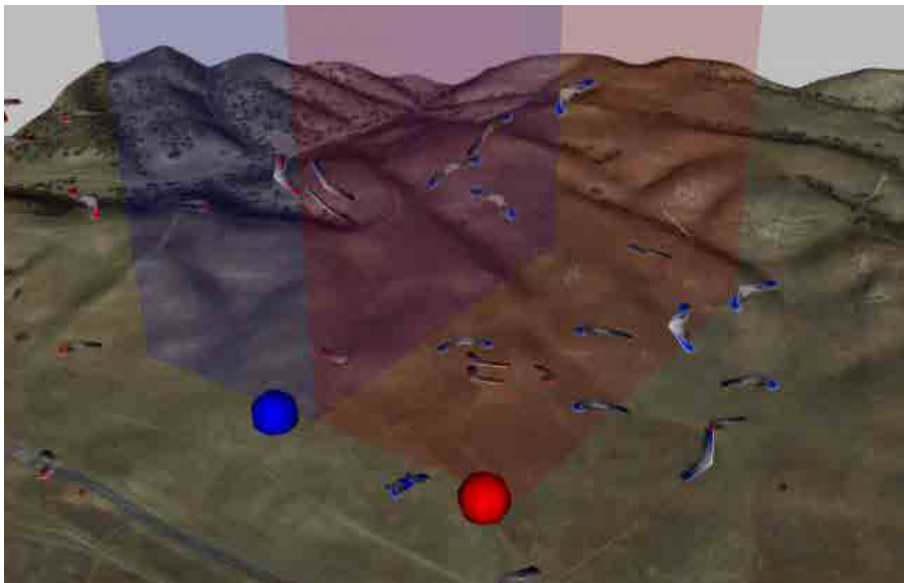


Defense Systems

DIGEST

31 JULY 2018 – THE LATEST FROM DEFENSE SYSTEMS INFORMATION ANALYSIS CENTER



NOTABLE TECHNICAL INQUIRY

What types of swarm and counter-swarm technologies and programs are out there?

DSIAC was asked to collect information regarding swarm and anti-swarm technologies that exist. DSIAC enlisted the services of West Virginia University's Innovation Corporation (WVUIC) and Georgia Tech Research Institute (GTRI) to help compile a list of pertinent technologies, along... [Read More](#)

► **SUBMIT YOUR TECHNICAL INQUIRY – 4 hours of research service for FREE**

FEATURED NEWS



America Needs New Weapons

Today, high-energy laser and high-power microwave systems—or “directed energy” weapons, have been shown to work and could combat a variety of emerging threats, but more investment is needed to bring them into the hands of our warfighters more quickly to protect the American people. With the Pentagon’s long-anticipated Missile Defense Review expected to be released soon, it is important for government and defense decision-makers to understand the application of directed energy (DE) for missile defense. Directed energy weapons (DEWs) reach targets at the speed of light, have much larger magazine depth, cost less per shot, and track targets... [Read More](#)

MODEL OF THE MONTH

RADGUNS – Radar-Directed Gun System Simulation (RADGUNS) is used to evaluate effectiveness of Air Defense Artillery (ADA) gun systems against penetrating aerial targets and to evaluate the effectiveness of different airborne target characteristics (radar cross section, maneuvers, electronic countermeasures, etc.) against an ADA system.

[Get this model!](#)



VOICE FROM THE COMMUNITY



Benjamin Barrowes, *Electrical/Electromagnetics Engineer, U.S. Army Corps of Engineers (Barrowes Consulting)*

Got Fortran programs? I have worked with Fortran for over 20 years, both at MIT and for 15 years at the U.S. Army as part of my job at ERDC-CRREL as an electrical engineer specializing in electromagnetics. While Fortran is fast, and legacy Fortran code can be very reliable, Fortran is being supplanted by more modern languages such as Matlab, R, and Python. To help with the transition, I wrote f2matlab (free version online) which translates Fortran source code into Matlab source code. For large and/or critical programs or when translating to R or Python, contact me. I can provide assistance. I have worked with codes such as DSSAT crop modeler, MFIx multiflow simulator, and the slatec mathematical library.

► Apply to be part of our network of over 1,000 subject matter experts.

UPCOMING EVENTS

2018 JASP Susceptibility Reduction Work Group

5 September 2018 to 7 September 2018

Building More Survivable Defense Systems and More Effective Weapons: A Short Course on LFT&E – Fall 2018

11 September 2018 to 13 September 2018

Joint Aircraft Survivability (JAS) FY18 Program Review (JPR)

18 September 2018 to 20 September 2018

Directed Energy Systems Symposium

24 September 2018 to 28 September 2018

► Want your event listed here? Let us know!

BULLETIN BOARD

NASA’s “KSC Reliability” website targets the practitioner and its stakeholder in engineering assurance with an emphasis on reliability and risk

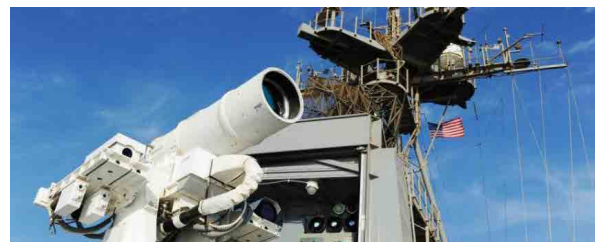
Updated Pedigree Documents: Vulnerability and Endgame Threat Characterization

SOFWERX Next Generation Information and Identification Awareness (NGIA) Collaboration Day

DARPA Subterranean (SubT) Challenge Competitors Day

► Add your item to our board by contacting us.

DSIAC JOURNAL SPRING 2018



Power Generation and Storage for Directed Energy Systems

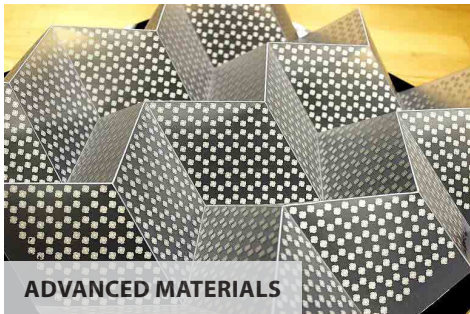
Also in this issue:

- ACES: Developments in Corrosion Prediction, Testing, and Validation
- DEW Countermeasures: A Notional Example of Hardening A System Against HPMs
- Cyber-Physical Command-Guided Swarm

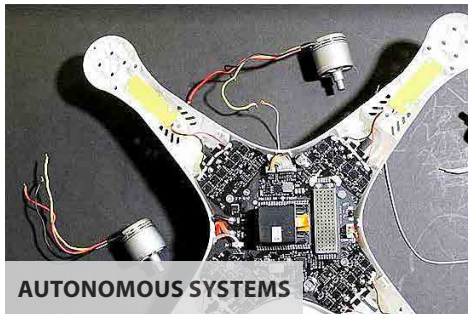


► Have an idea for a topic? Please contact us to write an article!

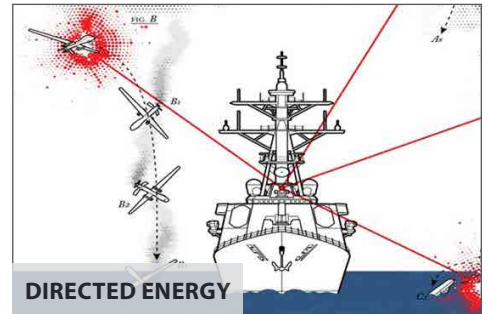
RECENT NEWS



ADVANCED MATERIALS



AUTONOMOUS SYSTEMS

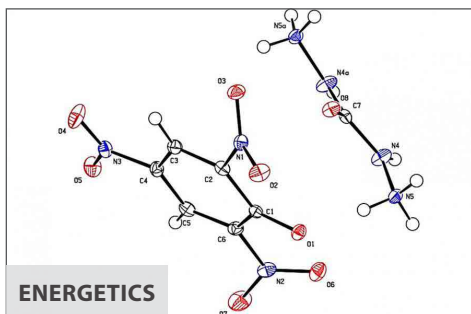


DIRECTED ENERGY

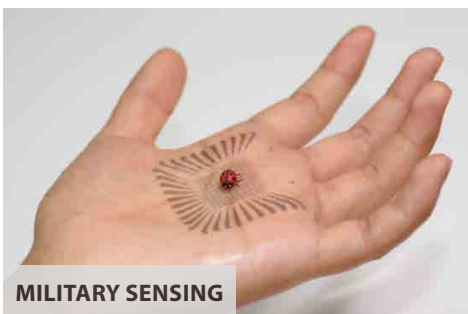
Linking Engineering, Art, and Science: Origami May be Key to Complex Air Force Needs

NIST Builds Drone Forensics Dataset for Law Enforcement

Fiber Lasers Mean Ray Guns are Coming



ENERGETICS



MILITARY SENSING



NON-LETHAL WEAPONS

Hydrazide Salts of Di-Picric Acid as Dense and Insensitive Energetic Materials

Stanford Researchers Develop Stretchable, Touch-Sensitive Electronics

Marines Field-Test New Flash-Bang Mortar Rounds During RIMPAC



RMQSI



SURVIVABILITY AND VULNERABILITY



WEAPON SYSTEMS

Detecting Damage in Structural Components With New Infrared Technologies

Creature Feature: Twisting Cracks Impart Superhero Toughness to Animals

U.S. Navy Progresses HAAWC High-altitude ASW Capability for Poseidon

NEWLY AVAILABLE STI

Documents only available through DTIC to registered users.

Outplayed: Regaining Strategic Initiative in the Gray Zone

Distro. A

Crossing Enemy Lines – the Growing Demand for Submersible Technology

Distro. A

Army Equipment Modernization Strategy: Equipping the Total Force to Win in a Complex World

Distro. A

Department of Defense Additive Manufacturing Roadmap

Distro. A

Additive Manufacturing Trends in Aerospace Leading the Way

Distro. A

Development of Sustainable Cold Spray Coatings and 3D Additive Manufacturing Components for Repair/ Manufacturing Applications: a Critical Review

Distro. A

When Opportunity Doesn't Knock: Examining Military Non-investment in Emerging Technologies

Distro. A

Summary of the 2018 National Defense Strategy of the United States of America

Distro. A

Unconventional Warfare Pocket Guide

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