

# DEFENSE

## Systems Digest

The Latest From the Defense Systems Information Analysis Center // October 5, 2021



SUBMIT A TECHNICAL INQUIRY

Wright-Patterson AFB

## NOTABLE TECHNICAL INQUIRY

### Small Particle Effects on Hypersonic and Subsonic Flight Vehicles

What information is available on the effects of certain flight conditions, namely the interactions of small and large particulates in the air, on high-speed (hypersonic/supersonic) vehicles?

The Defense Systems Information Analysis Center (DSIAC) was asked to identify information describing the effects small particles have on hypersonic and supersonic flight vehicles. DSIAC staff compiled research describing the effects of a variety of small particles, including water droplets, ice, rain, dust, sand, and volcanic ash. Volcanic ash effects on subsonic flight vehicles,... [READ MORE](#)



## SNEAK PEEK

**UPCOMING WEBINAR:**  
*Survivability Against High-Power,  
Radio Frequency/Microwave,  
Directed Energy Weapons*

**DATE:**  
October 20, 2021

**TIME:**  
12:00 PM

**PRESENTED BY:**  
John Tatum

**HOST:**  
DSIAC



## VOICE FROM THE COMMUNITY

**Jeffrey A. McChesney**  
*CEO & Founder, Target Arm Inc.*

I have decades of experience in the art of warfare and high-technology development. I work with the military to enable high volley rates for kinetic and intelligence, surveillance, targeting, and reconnaissance (ISTAR) uses for unmanned aerial vehicles (UAVs) while on the move, with the goal of persistent air dominance at every echelon.

## ARE YOU A DSIAC SUBJECT MATTER EXPERT (SME)?

If you are a contributing member of the defense systems community and are willing to help others with your expertise, you are a DSIAC SME! Our SMEs come from various backgrounds, such as DoD research laboratories, active and/or retired military service, academia, industry, and DSIAC's own technical staff.

**BECOME A SUBJECT MATTER EXPERT**



U.S. DoD

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## HIGHLIGHT

### Deputy Defense Secretary, U.K. Counterpart Discuss Defense, Security Priorities

Deputy Defense Secretary Kathleen H. Hicks met with U.K. National Security Advisor Sir Stephen Lovegrove to reaffirm the U.S.-U.K. bilateral relationship between the United States and the United Kingdom, a Defense Department spokesman said.

The two leaders met at the Pentagon and exchanged views on defense and security priorities, including the progress on U.S. strategic reviews and the recently announced Australian, U. K., and U. S. trilateral security partnership to ensure peace and stability in the Indo-Pacific region, the spokesman... [READ MORE](#)

## FEATURED NEWS

### Army, Navy Satellite Communication Mission Areas Shift to Space Force

The Chief of Space Operations announced the transfer of Army and Navy satellite communications billets, funding, and mission responsibility to the U.S. Space Force.... [READ MORE](#)



Image: U.S. Space Force



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U.S. Air Force

## WEBINARS

### Survivability Against High-Power, Radio Frequency/Microwave, Directed Energy Weapons

*Presented:* October 20, 2021

*Presenter:* John Tatum, Special Projects-EM/RF DEW Tech, SURVICE Engineering Company

*Host:* DSIAC

Modern military systems and supporting infrastructure depend upon sensitive semiconductor electronic components to provide their sensing, communications, and weapon system functions. These electronic devices are known to be potentially vulnerable to high-power electromagnetic sources and environments, such as those produced by high-power microwave (HPM), radio frequency, directed energy weapons. HPM is a new form of "non-kinetic" energy weapons threats that systems must face in addition to traditional kinetic energy weapons, such as projectiles, rockets, and missiles. HPM weapons can irradiate a target with sufficient energy to couple the energy into the target's electronics and... **LEARN MORE**



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### Who Is Leading in AI/ML? An Unbiased Look at the Global AI/ML Landscape

November 10, 2021  
12:00 PM

## EVENTS

### 2021 Fleet Maintenance & Modernization Symposium (FMMS)

October 17, 2021

### 2021 Future Force Capabilities Conference and Exhibition

October 18, 2021

### 2021 Joint Aircraft Survivability (JAS) Program Review (JPR)

October 19, 2021

### Military Standard 810 (MIL-STD-810) (Orlando, FL )

October 25, 2021

### Directed Energy Systems Symposium

October 25, 2021

### Hypersonic Technology & Systems Conference (HTSC)

October 25, 2021

### TechNet Cyber 2021

October 27, 2021

### Want your event listed here?

Email [contact@dsiac.org](mailto:contact@dsiac.org) to share your event.

-  Advanced Materials
-  Autonomous Systems
-  C4ISR
-  Directed Energy
-  Energetics
-  Military Sensing
-  Non-Lethal Weapons
-  RMQSI
-  Survivability & Vulnerability
-  Weapons Systems

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## RECENT NEWS



DARPA

**Adaptable Optical Communications to Facilitate Future Low-Earth Orbit Networks**

Government



istock

**Directed Energy Weapons Shoot Painful but Non-Lethal Beams – Are Similar Weapons Behind the Havana Syndrome?**

Industry



DARPA

**DARPA'S Hypersonic Air-breathing Weapon Concept (HAWC) Achieves Successful Flight**

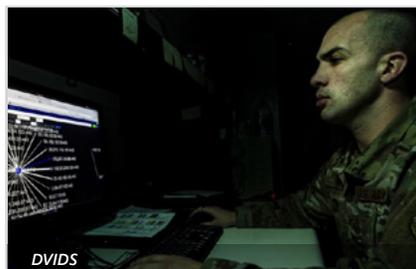
Government



DVIDS

**New Army and Air Force Body Armor Gets Fielded to the 82nd Airborne Division**

Industry



DVIDS

**Report on Navy Laser, Railgun, and Gun-Launched Guided Projectiles**

Government



NASA

**Tiny Satellites Will Address Sizeable Questions in Space Science**

Government

