

IRIA covers the following areas related to infrared and radar technologies, and to the technologies of acoustics and seismics. The list evolves constantly in response to changes in the technologies.

- Arrays
- Backgrounds
- Countermeasures
- Detectors
- Imaging
- Materials
- Modeling
- Multispectral
- Propagation
- Sensor Systems
- Simulation
- Targets
- Techniques

Or specifically

- Integrated Optics
- Laser Systems
- Moving Target Indicator (MTI)
- Over-the-Horizon Radar (OTH)
- Sensor and Data Fusion
- Synthetic Aperture Radar (SAR)
- Other Specialized Technologies

IRIA is an authoritative resource for the collection, analysis, and dissemination of electromagnetic, acoustic, and seismic technology. IRIA provides technical research, bibliographic searches, and other services. Some specific focus areas include passive sensor development and assessment, coherent systems, detectors, properties of materials, target detection and discrimination, and characteristics of radiative environments.

IRIA manages the Military Sensing Symposia (MSS), formerly IRIS, a series of classified meetings focused on military sensors and sensing in the electromagnetic spectrum and other energies of vibration, specifically acoustics and seismics. Currently, 10 classified meetings are held annually on topics related to infrared and electro-optics, radar, acoustics, and seismics; namely, missile defense sensors, environments and algorithms; active systems; passive sensors; countermeasures; sensor and data fusion; materials; detectors; camouflage, concealment and deception; acoustics; and the National MSS Symposium.



TATs & Products

Evaluation of Russian Satellite Imagery for Mission Planning

The Gulf War began a new era of mission planning—an era in which commercial satellite imagery is an integral part of the U.S. Air Force (USAF) mission planning process. Under this TAT, IRIA characterized the imagery and assessed several measures of image acceptability.

Joint Tactical Missile Signature Handbook

The Joint Tactical Missile Signatures (JTAMS) Joint Test Force was formed to rectify the design of many weapons systems that rely on accurate missile signatures. JTAMS produced the Tactical Missile Signature Handbook, which documents measured signatures, along with test planning and execution procedures, test requirements, and instrument issues. IRIA assisted in the final development and publication of the handbook, and will maintain and update the publication to ensure its currency well into the future.

Shipboard Infrared Search & Track Sensors (IRST)

Cruise missiles and other airborne threats make close-to-shore operations one of the U.S. Navy's most challenging missions. Improvements in performance make infrared systems possible candidates for detecting and tracking these threats. However, a number of serious obstacles must be overcome before IRSTs

can be used in this role. IRIA is actively investigating atmospheric propagation effects on sensor performance and is researching the utility of advanced discrimination techniques such as the use of polarization and multispectral sensing.

The Infrared Handbook

This handbook was prepared as a replacement for the *Handbook of Military Infrared Technology*. It serves the infrared community as a ready reference for data, techniques, and equations. The handbook is still extensively used by the infrared community and as a classroom textbook at several universities.

The Infrared & Electro-Optical Systems Handbook

This handbook is an eight-volume set of comprehensive and authoritative works by recognized experts in the field of infrared and electro-optical sensor and data processing systems. It provides a full treatment of terminology, definitions, fundamental physical concepts, equations, graphic and tabular data, and hardware and software descriptions that enable the user to understand, analyze, design, and evaluate existing and new systems.

Military Utility of Multispectral & Hyperspectral Sensors State-of-the-Art Report

This report covers current research and development, including the phenomenology of spectral properties, multispectral and hyperspectral sen-

sors, modeling and simulation, and spectral discrimination algorithms. Other current state-of-the-art reports are available on infrared search and track sensors, and infrared signature simulation of military targets.

Statistics of Various Terrain & Water (Ice) Backgrounds from Selected U.S. Locations on CD-ROM

This CD is a source of imagery and statistical data on various types of backgrounds. It was assembled from several Veridian ERIM International tasks for collecting infrared imagery in various spectral bands and analyzing their statistical features.

Joint Tactical Missile Signature Handbook & CD-ROM

This CD or handbook provides the DoD Tactical Missile Signatures (TMS) Measurement Standard as well as guidance for planning, executing, and reporting of tests that produce missile signatures. It explains the TMS Measurement Standard, which identifies the data elements needed to produce high-quality signatures. This handbook also presents the mission of the Advanced Missile Signature Center TMS Data Library, and describes the resources it provides for the TMS community.

For a listing of products, prices, availability, and distribution limitations, contact IRIA or visit our Web site at <http://csdnta.irim-int.com/iria/iriaweb.nsf/>

In the near future, IRIA's URL will change to <http://iac.dtic.mil/iria>

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