

TACTICAL THERMAL IMAGE Model (TTIM)

DESCRIPTION

TTIM is a validated image-based infrared sensor model developed by OptiMetrics, Inc. to aid in the generation and assessment of concept vehicle designs. Starting with high resolution synthetic or measured IR imagery, TTIM produces simulated sensor imagery that includes the effects of the sensor and the intervening natural or battlefield induced atmosphere.

There are three versions of TTIM that simulate three classes of tactical military sensors:

- 1) Scanning (1st Gen) Thermal Imagers
- 2) Focal Plane Array (2nd+ Gen) Thermal Imagers
- 3) Visual/NIR Image Intensified Imagers

TTIM as distributed runs under IRIX on a Silicon Graphics workstation.

APPLICATIONS

TTIM is employed whenever sensor or atmospheric effects on imagery is to be evaluated or analyzed. For example, the output sensor imagery can be used to :

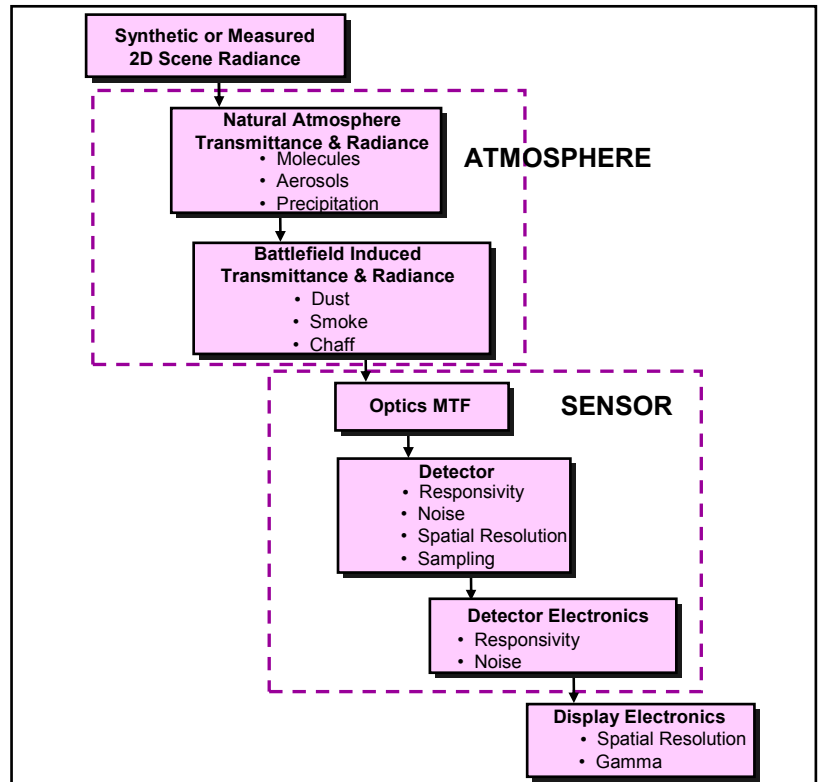
- Compare various sensor technologies
- Evaluate concept designs for military vehicles
- Develop and evaluate automatic target recognition and cueing algorithms

The detailed sensor and atmospheric models can also provide a means for:

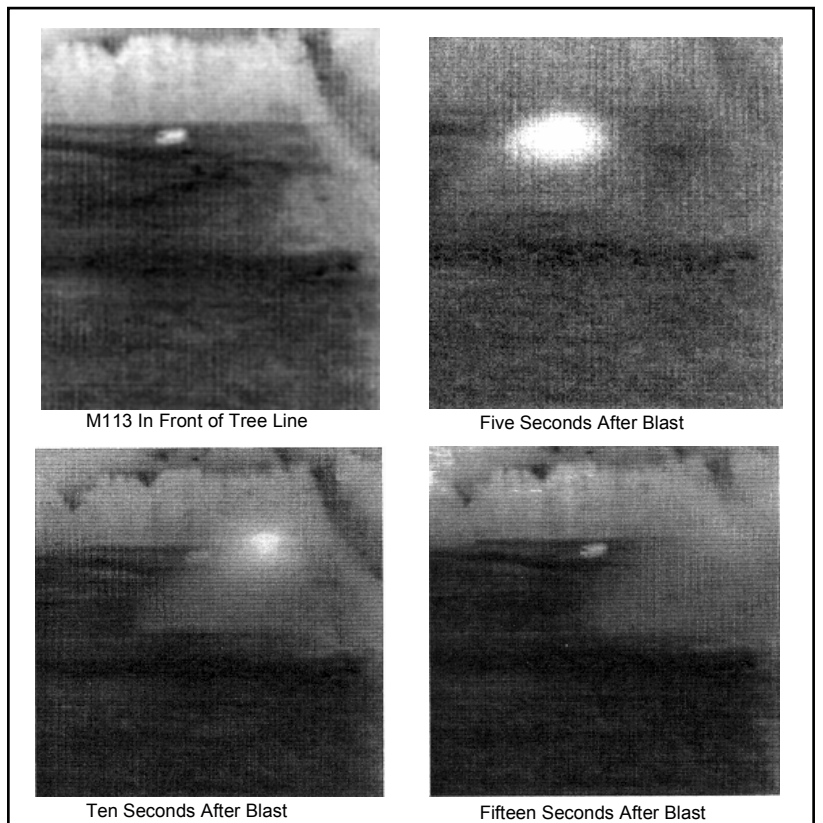
- Obscurant design
- EO system operator training
- Sensor suite concept design
- Human observer platform training

ACKNOWLEDGMENT

TTIM development has been supported by the Army TARDEC



TTIM Through-the-sensor simulation of atmosphere, battlefield and sensor effects on IR scenes.



TTIM Simulation of 155 mm HE round explosion on 1st Gen Thermal Sensor Imagery



OptiMetrics, Inc.
Research & Engineering

3115 Professional Drive
Ann Arbor, MI 48104-5131
Tel. 734/973-1177 Fax 734/973-1199

Visit our web site:
<http://www.OptiMetrics.org>
Or email us: info@OptiMetrics.org