

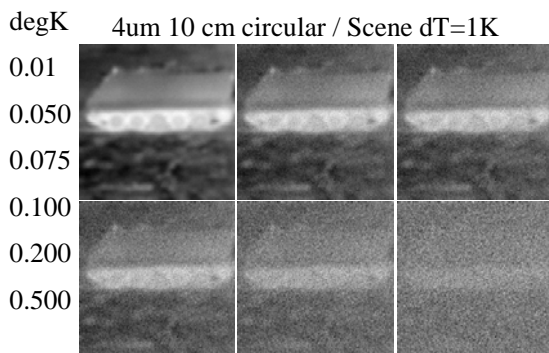
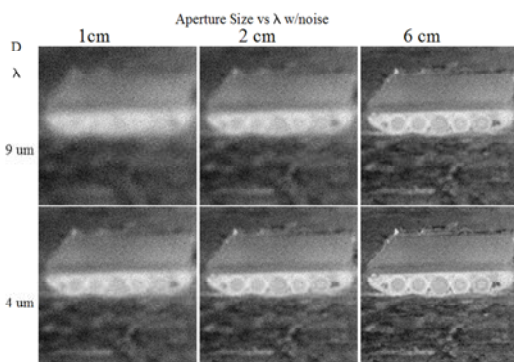
SenSimRT

Advanced EO/IR Sensor SDK & Real-Time Effects Library

SenSimRT is an advanced sensor modeling toolkit and run-time library for real-time sensor effects simulation of any optical sensor in the EO or IR passband. It provides engineering-level modeling of the optics, detector, electronics and display components, simulating appropriate Modulation Transfer Functions (MTFs), detector sampling, noise, non-uniformity, dead-detectors, fill-factor, 1/f and white noise, pre-and post-amplifiers, and displays. SenSimRT can use the actual sensor component specifications to provide the most realistic sensor visualization experience.

SenSimRT Solution Suite

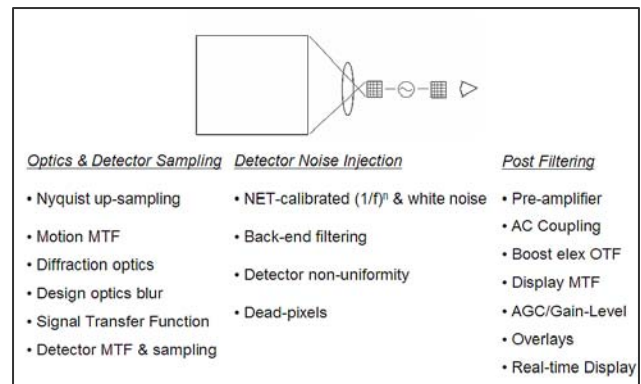
SenSim is an advanced optical sensor modeling and real-time effects solution suite that consists of two component technologies: SenSimMT, the Sensor Design Modeling Tool, and SenSimRT, the real-time Sensor Effects Post-Processor Library.



SenSim Passband Diffraction Analysis

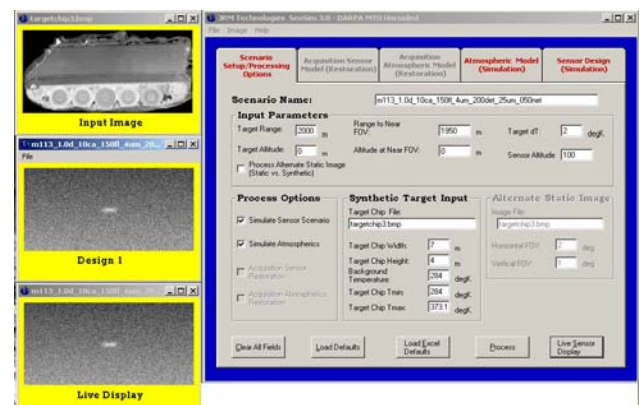
SenSimMT

SenSimMT is a powerful tool for sensor design and analysis studies. Users simply enter typical or known sensor specifications, and dynamically view the effect as would be on an actual sensor display.



SenSimMT ingests either a static sensor image or synthesizes a tactical scene on-the-fly with a target model at range based on user-specified inputs. Using advanced engineering models for simulating the sensor effects in non-real-time, it produces a play-back movie of that sensor against the user-specified scenario.

When the user has the precise specifications for the right sensor "look-and-feel", SenSimMT outputs the run-time data constructs to be used by SenSimRT for real-time sensor effects implementation.



SenSimRT - GPU Real-time Sensors

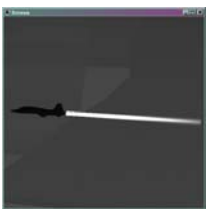
SenSimRT is an innovative library that uses the same sensor design principles as SenSimMT, and is configured to apply engineering-level NVG and FLIR sensor effects at the real-time sensor frame rate, depending on the SenSimMT design and graphics hardware.

Scalable Solution

SenSimRT is a scalable solution using robust run-time software that implements SenSimMT modeling in the GPU on NVIDIA and ATI advanced graphics boards in real-time. Efficient GPU algorithms apply the effects to the at-aperture imagery in the frame-buffer with very minimal impact on scene rendering performance. The result is real-time advanced sensor effects on low cost PC-based hardware. SenSimRT will also run on tightly-coupled dual GPU hardware architectures, like SLI from nVidia, for larger at-aperture image- processing at higher frame-rates. SenSimRT performs physically-correct, engineering level effects simulation, like real-time NVG haloming.

Features

- GUI-Based Real-Time Sensor Effects Library
- Easy integration into existing IGs
- Provides engineering-level modeling of the optics, detector, electronics and display components
- Blurring and noise
- Physically-correct NVG light-point haloming in the frame-buffer
- Supports NVIDIA and ATI advanced graphics boards
- Supports real-time frame rates



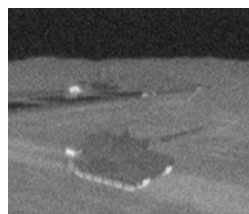
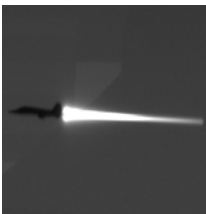
T38a Aircraft



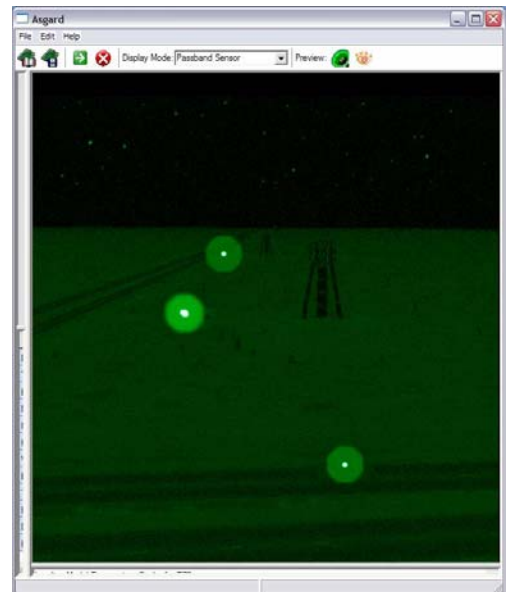
3-5 um FLIR
T72 Tank



Tactical



At-aperture Inputs and SenSimRT outputs



SenSimRT Physically-Correct GPU
Haloming

For More Information Contact:

Russ Moulton
rmoulton@jrmtech.com
540-842-4585



JRM Technologies
150 Riverside Parkway, Suite 209
Fredericksburg, VA 22406
540-371-6590
www.jrmtech.com