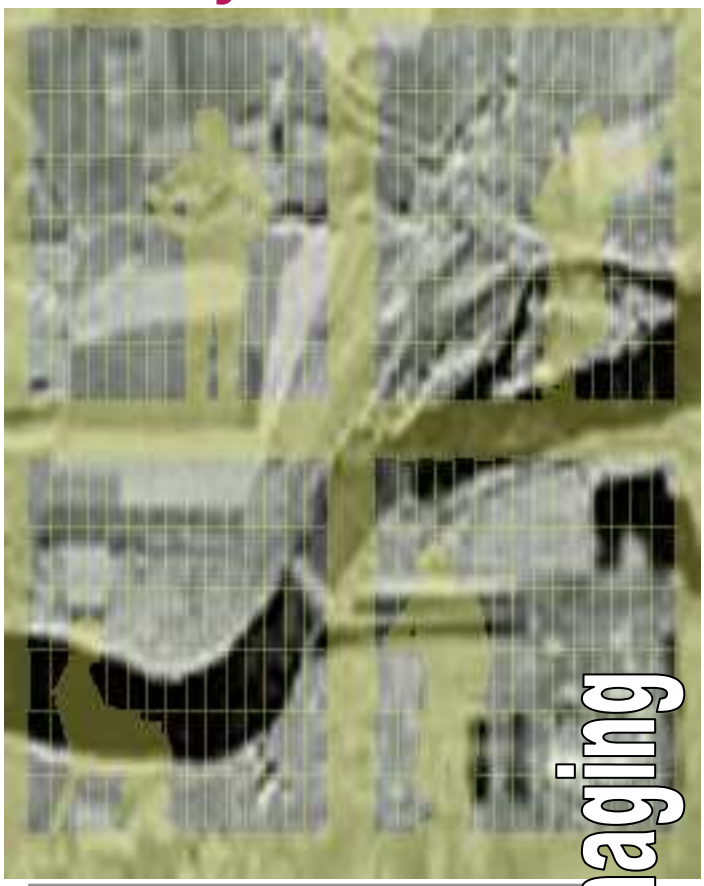
SE-FAST-RADAR

3D Synthetic Environment

Targets

Airborne

Recognition



Radar imaging

Compute realistic radar images

Advanced radar simulation tool

SE-FAST-RADAR simulates radar signals of a 3D virtual database in real-time.
The perfect engine for man-in-the-loop simulation set up.

SE-FAST-RADAR main features

RF models validated by French ONERA & Swedish FOI

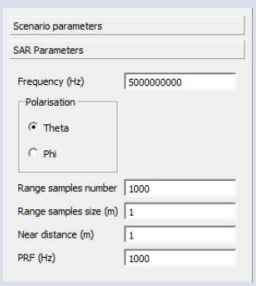
Pre- compiled raw data files (*.rsrm, *.rtrm and *.rptrm).

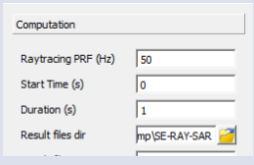
Benefits from the SE-FAST-IR logic and architecture.

Computes dielectric objects and diffraction by edges

Easy-to-use product thanks to its dedicated GUI

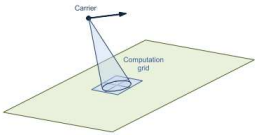
Key features of a radar are simulated such as:
- Frequency
- Polarisation
- radar altitude



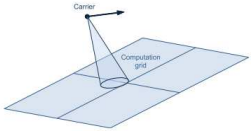


Key advantages

- **Complex 3D scene management**
- **Robust electromagnetic models**
- **Antenna diagram import facility**
- **2 ray tracing modes available:**



strip mapping mode



spot light mode

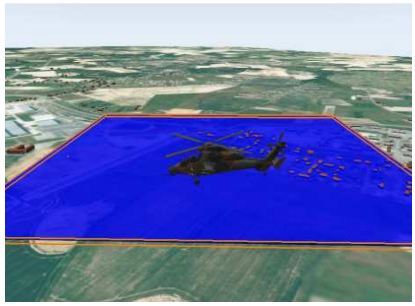
- **Improved simulation performances with the Ray-tracing Pulse Radar Frequency-RPRF**
- **High performance even for a very complex scenario**
- **Services associated to the product: hotline, maintenance, training**

Physical model features

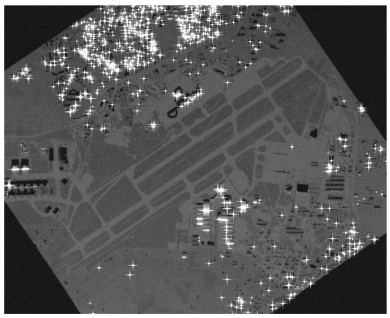
SE-FAST-SAR is based on SE-RAY-EM ray-tracing kernel:

- Association of shooting and bouncing ray technique (ray tracing) & electromagnetic asymptotic formulations
- Scattering computation using Physical Optics
- Multiple reflections computation using Geometrical Optics
- Edge diffraction computation using the Equivalent Current Method of Michaelli extended to targets covered by dielectric materials
- Reflection and scattering on multilayer dielectric materials
- Model dedicated to clutter materials including speckle effects

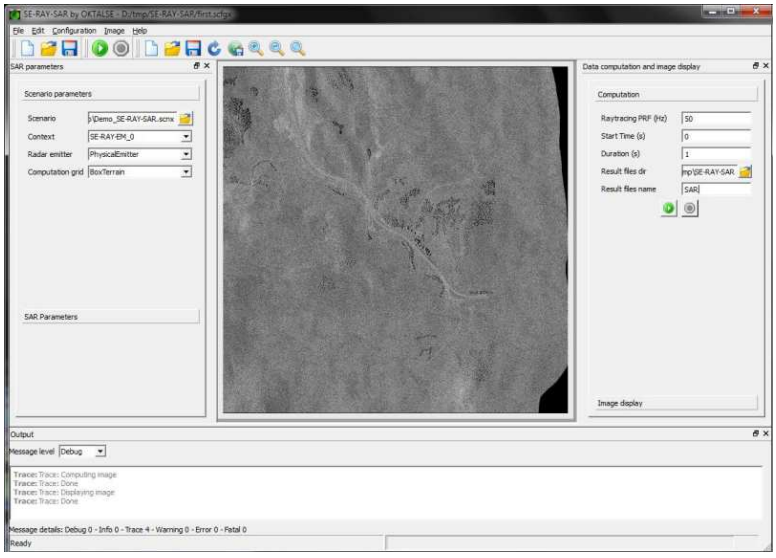
Model



Scene preparation



Computation



User Friendly GUI

Benefits:

An efficient tool for man-in-the-loop training devices

RF formulations validated by ONERA in France, FOI in Sweden and FGAN in Germany

System requirements :

Windows™ XP, 7