OKTAL-SE
Synthetic Environment

EO ✓
AEO ✗
RF ✗
GNSS ✗
RAY ✓

SE-ATMOSPHERE

FAST ✓

SPECIFY ATMOSPHERIC CONDITIONS FOR YOUR PHYSICAL SIMULATION

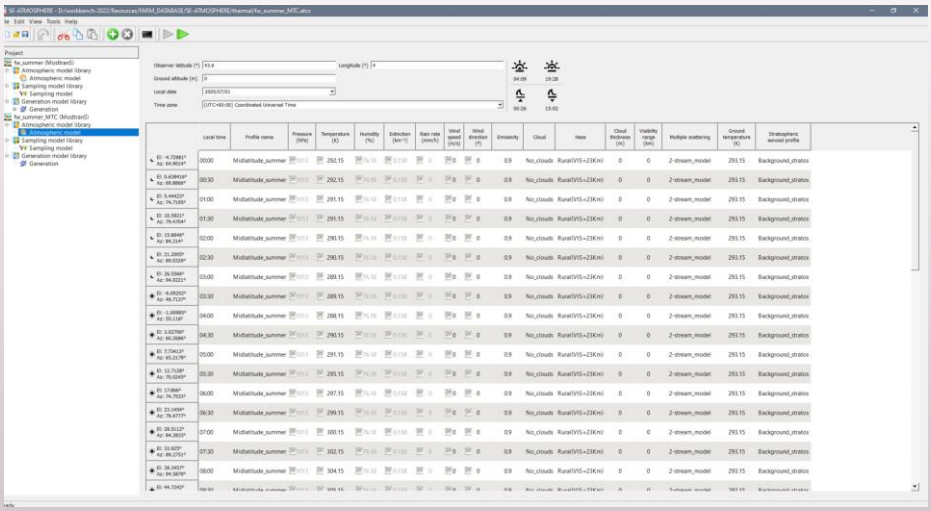
SE-ATMOSPHERE takes into account the atmospheric conditions, the ephemeris and the generation parameters to calculate radiance, irradiance and atmospheric transmission values. The software contains a phenomenological model of propagation and can also operate with MATISSE and MODTRAN propagation codes

Features

- Exploitation of MATISSE and MODTRAN 5 validated atmospheric models
- Well adapted for spectral visible & infrared spectrum for synthetic environment modelling
- An easy and efficient user interface for parameterising of all the supported models
- Can be run in batch mode
- Errors prevention with a set of « default » parameters given to the user as a function of his selection
- A database of pre-computed (thermal and radiative) atmospheric files available on demand

Easy Edition of Configuration Files

Simple GUI that manages the import parameters

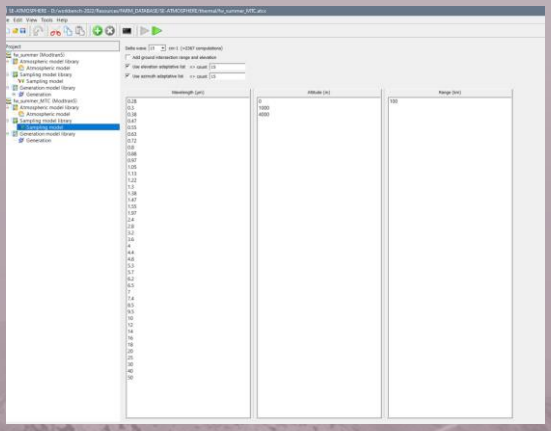


Atmospheric Configuration Preview

Used to analyse the results of a given atmospheric configuration without having to compute atmospheric file

Parametric Study

Simple and fast multi curve display to analyse parameter's influence



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Benefits

- Ease of use: Powerful JAVA or QT interface
- Reliability: Benefits of validated radiative solvers like MODTRAN or MATISSE
- High Efficiency: Allows to generate many atmospheric databases
- Modularity: compliant with future atmospheric modules to come
- Possibility to import user defined profiles of temperature, pressure, hygrometry, ... in order to customize the atmospheric computation

System requirements

Windows

Linux

Selection of Global parameters

Date, latitude, longitude, global atmospheric model, ground altitude, …

Time dependant parameters

Haze, clouds, rain, temperature, visibility range, …

Sampling capabilities

Sampling of wavelength, azimuth, elevation, range and altitude for the spectral calculation of solar/lunar irradiance, atmospheric attenuation and sky radiance

Availability of template configuration files for basic wave bands (visible, SWIR, MWIR, LWIR)

Import formats

User defined parameters
MATISSE, MODTRAN

Export formats

SE-WORKBENCH ATM format (for SE-THERMAL, SE-THERMAL-SHADOWS, SE-RAY-IR and SE-FAST-IR software)
XWA format (for TAITherm® software by ThermoAnalytics)

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