

- EO 
- AEO 
- RF 
- GNSS 
- RAY 

# SE-ATMOSPHERE



**SPECIFY ATMOSPHERIC CONDITIONS FOR YOUR PHYSICAL SIMULATION**

**FAST** 

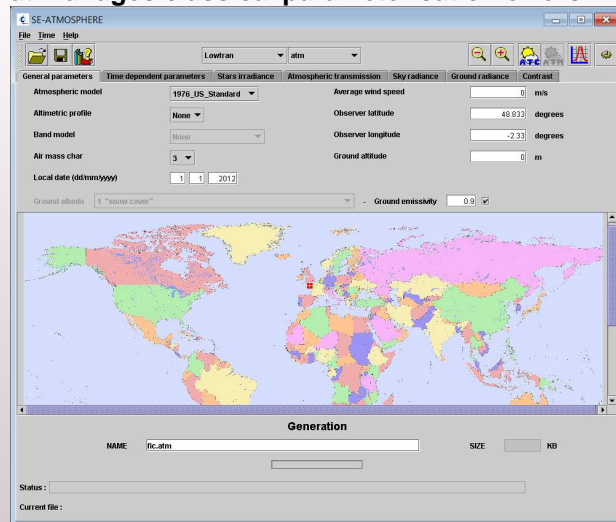
SE-ATMOSPHERE takes into account the atmospheric conditions, the ephemeris and the generation parameters to calculate radiance, irradiance and atmospheric transmission values. The software contains a phenomenological model of propagation and can also operate with MATISSE and MODTRAN propagation codes.

## 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 classical parameterisation errors

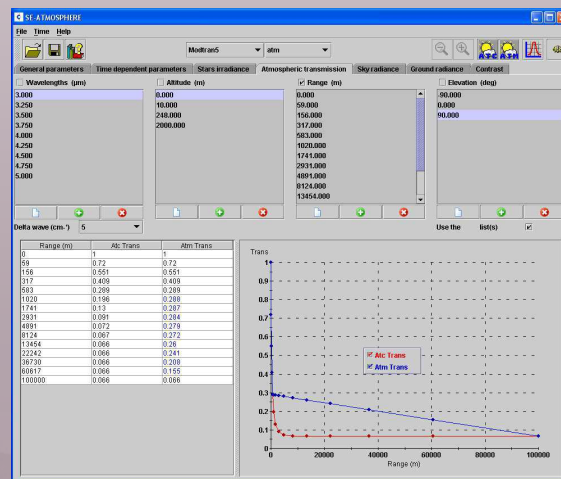


## Atmospheric Configuration Preview

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

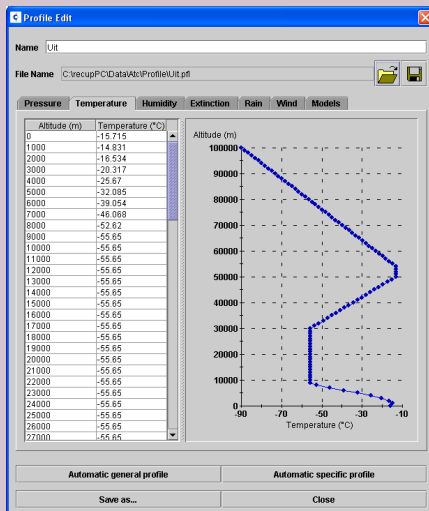
## Parametric Study

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



## 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<sup>®</sup> software by ThermoAnalytics)



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