ETC-42

a generic, VO compliant, Exposure Time Calculator

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What is ETC-42?

- It is an Exposure Time Calculator
- It is **generic**
  (not designed for a specific instrument)
- Provides a very flexible SNR calculation
- It is easily extensible
- It is **VO** compliant
- It targets a broader range of users
Input configuration is grouped in four components: Instruments, Sites, Sources, Observing Parameters.
Instrument configuration

PSF modes:
- Automatic
- Gaussian FWHM profile
- AO (coming soon)

Instrument types:
- Imager
- Slit Spectrograph
- Fiber Spectrograph
- Slitless Spectrograph
Site configuration

Ground and Space sites

Ground Sites:
- Seeing
- Sky information

Space Sites:
- Zodiacal light
- Galactic light
Source configuration

Spatial Distribution:
- Point Source
- Extended Source (circularly symmetric)

Spectral Distribution:
- Continuum
- Black Body
- Emission Line
- Template
Observing Parameters configuration

Calculation for:
- Fixed exposure time
- Fixed SNR

Calculation in spectroscopy mode:
- Per spectral pixel
- Per spectral resolution element
Simulation Results

Simulation is executed by pressing the Execute button. Results of multiple simulations are shown in different tabs for easy comparison.
The Graphics panel is based on the JfreeChart library and it provides all the default functionality (zoom, line styles, etc).

It has been extended to support over-plotting by drag and drop of the tabs.
VO Functionality

Source spectral distribution template can be imported via SAMP as a spectrum type.
VO Functionality II

Results can be broadcasted via SAMP as a VOTable.
Other Functionalities

• Importing / Exporting
  • XML files
  • Import locally or from remote repositories

• Command line mode
  • Scripts are supported

• Plugin framework
  • Access and modify the input configuration
  • Run the simulation (one or multiple times)
  • Use the ETC-42 results panel
Future development

VO related

- Source flux from image
- Slit definition via SAMP (from Aladin)
- Import / Export in CharacterizationDM - ObsCoreDM

Other

- PSF from data cube
- Simulated image as output
- Hybrid mode (GUI with command line)
More information

ETC-42 web page:
http://projets.oamp.fr/projects/etc

- Download the ETC-42
- Download documentation
- Download configuration files
- Report bugs
- Request new features
- Stay updated with latest news via Atom feed
Want to contribute?

- Download and use ETC-42
- Let other people know about it
- Contribute instrument and site configurations
- Suggest new features
- Build and contribute plugins

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END OF PRESENTATION

ANY QUESTIONS?