

Astronomical source definition

Spatial profile and brightness: [\(more info\)](#)

Choose one of point, extended or user-defined source profile and the brightness in any filter/wavelength

- ☒ **Point source** ([nominal PSF](#)) with spatially integrated brightness (e.g. 19.3 mag or $2e-17$ W/m²/μm)

Extended source having ... (When this option is selected the image quality selection in section 3 of the ITC is disabled.)

- ☐ Gaussian profile with full width half maximum (including seeing) of arcsec and spatially integrated brightness of (e.g. 19.3 mag or $2e-17$ W/m²/μm)

- ☐ Uniform surface brightness (e.g. 21.6 mag/arcsec²)

with the above **brightness normalisation** applied in filter band

[Calculate](#)

Spectral distribution: [\(more info\)](#)

Choose one SED, the redshift and extinction

- ☐ Library spectrum of a non-stellar object
- ☐ Library spectrum of a star (300 nm - 6 μm)
- ☐ Single emission line at wavelength micron with line flux and line width km/s on a flat (in wavelength) continuum of flux density
- ☐ Model black body spectrum with temperature K
- ☒ Model power-law spectrum ($S_{\lambda} = \lambda^{-1.0}$)
- ☐ User-defined spectrum read from file (size < 1MB) no file selected

with the **spectrum mapped** to a redshift ☒ $z =$ or a radial velocity ☐ $v =$ km/s

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Instrument (Flamingos-2), telescope

Instrument optical properties: [\(more info\)](#)

Camera: 0.18 arcsec/pix

Filter:

Disperser:

Focal Plane Mask:

Detector properties: [\(more info\)](#)

Read mode:

- ☐ Bright object: CDS and readnoise = 11.7 e-
☐ Medium object: 4 reads and readnoise = 6.0 e-
☒ Faint object: 8 reads and readnoise < 5.0 e-

Dark current: 0.3 e-/s

Gain: 4.44 e-/ADU

The Flamingos-2 Hawaii-II detector is ~1% linear up to 22,000 ADU.

Telescope configuration: ([more info](#))

Mirror coating: ☒ silver

Instrument port: ☐ up-looking (2 reflections) or ☒ side-looking (3 reflections)

Wavefront sensor for tip-tilt compensation: ☐ PWFS ☒ OIWFS

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Observing condition constraints

Please read the [explanatory notes](#) for the meaning of the percentiles and to ensure that your selected conditions are appropriate for the observing wavelength. Further details are available on the [observing condition constraints](#) pages.

- | | | | | |
|------------------------|--|---|---|--------------------------------------|
| Image Quality: | <input type="radio"/> 20%/Best | <input checked="" type="radio"/> 70%/Good | <input type="radio"/> 85%/Poor | <input type="radio"/> Any |
| Cloud Cover: | <input checked="" type="radio"/> 50%/Clear | <input type="radio"/> 70%/Cirrus | <input type="radio"/> 80%/Cloudy | <input type="radio"/> Any |
| Water Vapor: | <input type="radio"/> 20%/Low | <input type="radio"/> 50%/Median | <input type="radio"/> 80%/High | <input checked="" type="radio"/> Any |
| Sky Background: | <input type="radio"/> 20%/Darkest | <input type="radio"/> 50%/Dark | <input checked="" type="radio"/> 80%/Grey | <input type="radio"/> Any/Bright |
| Airmass: | <input type="radio"/> <1.2 | <input checked="" type="radio"/> 1.5 | <input type="radio"/> 2.0 | |

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Details of observation

Calculation method: ([more info](#))

Select the calculation method (note: second method is not available for spectroscopy)

- ☒ Total S/N ratio resulting from exposures each having an exposure time of secs and with a fraction of exposures that observe the source
- ☐ Total integration time to achieve a S/N ratio of using an exposure time for each exposure of secs and with a fraction of exposures that observe the source

Telescope offset: ([more info](#))

Dither offset size: arcsec

Analysis method: ([more info](#))

- ☒ Photometry in software aperture that gives 'optimum' S/N ratio
- ☐ Photometry in software aperture of diameter (or slit length) arcsec

Output:

For spectroscopy, ☒ autoscale or ☐ specify limits for plotted spectra (lower wavelength micron and upper wavelength micron)

[Calculate](#)

[Calculate](#)

[Reset to defaults](#)