GIRAFFE Exposure Time Calculator

Optical Multi-Object Spectroscopy Mode Version P116 Description FAQ

GIRAFFE Spectroscopy Model

Source Geometry: Seeing limited

Source Flux Distribution
Type: **Blackbody**
T=**6500 K**

Source Brightness:
Magnitude : **V = 17**
Magnitude System : **Vega**

Sky Conditions
Airmass : **1.50**
Moon illumnation FLI: **0.50**
Moon-target separation: **45.00** degrees
PWV : **30.00 mm**
PWV Probability : **> 95 %** of realising the PWV ≤ 30.00 mm
Seeing : **0.80** arcsec @500nm, zenith
Turbulence category : **50%**

☐ **show sky model configuration details**

Image Quality
Image Quality FWHM : **0.82** arcsec ***(to be used for OB constraint set)***
☐ **show details of the IQ calculations**

Instrument Setup
Grism: **HR15n**
Object-fiber displacement : **0.3** arcsec
Detector **Carreras** in **standard** read mode with binning **1**

Results requested
Signal to Noise of **50**
Range **50(%)**

Setup name	:	**HR15n**
Reference Wavelength	:	**665.000** nm
Wavelength Range	:	**647.242 - 678.992**
Fiber / Sky Sampling Mode	:	**MEDUSA**
Dispersion	:	**0.010** nm/pixel
Plate scale	:	**0.300** "/pixel
FWHM of the fiber spatial profile	:	**4.001** pixels
Efficiency at reference wavelength (no extinction)	:	**9.691** %
Efficiency at reference wavelength (with extinction)	:	**8.723** %
Fiber injection loss note	:	**33.934** %
Loss due to object-fiber displacement note	:	**14.775**
Total object signal at reference wavelength	:	**2787.764** e-
Sky background signal at reference wavelength	:	**224.885** e-
Max. intensity note at reference wavelength (obj+sky)	:	**697.393** e-/pixel
Detector saturation	:	**152043** e-
Detector read-out noise level	:	**4.000** e-/pixel
Detector dark current	:	**0.503** e-/pixel/hour
Number of Fibers covering the source note	:	**1**
Fiber diameter note	:	**6** pixels
Exposure Time (1 exposure)	:	**6460.262** seconds
Signal to Noise at reference wavelength note	:	**50.000**
Mean Signal to Noise	:	**49.403**
RMS Signal to Noise	:	**49.679**
Signal to Noise near maximum transmission note	:	**50.117**

Warning: *Please be aware that without a waiver there is a one-hour execution time limit for Service Mode OBs, and that the times returned here* ***do not*** *include instrument overheads, times for sky measurements, etc. Thus, care must be taken to allow for these additional times when constructing compliant OBs.*
