STScI | SPACE TELESCOPE SCIENCE INSTITUTE

JWST Master Class 2019

Integral Flux Unit Module

Space Telescope Science Institute
San Martin Drive, Baltimore MD 21218

IFUs Master Class APT/ETC Worksheet (NGC 6240 LIRG/AGN)

NIRSpec Target Acquisition

1) What is the Visit Splitting Distance for NGC 6240?

2) What TA method is appropriate?

3) What is the name of the 2nd closest 2MASS star?:

4) How far is this star from the science target?:

5) Will this star saturate with FULL readout?

6) What readout mode is required for TA not to saturate this star?

7) What is the parallax of this star? Hint: https://gea.esac.esa.int/archive/

8) How large is the proper motion of this star? Hint: P.M. < 60 x parallax

9) Is this star suitable for the type of TA you selected?

10) What Acquisition Filter should you select?

11) What Acquisition Readout Pattern should you select?

12) What values does this yield for the Acq Exposure Time parameters?

13) What is the SNR for TA in F140X with these parameters and the above 2MASS star?

NIRSpec Science Parameters

1) Which Dither Type(s) is/are appropriate for an extended source?

2) What Grating/Filter should we use for kinematics of the H2 1-0 S(0) 2.1 μm line?

3) What Readout Pattern is recommended for the source flux?

4) What Exposure Parameters will give adequate S/N for our science goal?

5) Is Leakcal advisable?

6) Should any Leakcal exposure be Dithered?

7) Is Autocal necessary?

Continue to MIRI Target Acquistion on next page...

MIRI Target Acquisition

1) What is the Visit Splitting Distance for NGC 6240?

2) Is TA required for the science?

3) What is the name of the closest 2MASS star?:

4) How far is this star from the science target?

5) Would this star saturate with FAST readout? Hint: Check photometry in NED.

6) What is the proper motion of this star? Hint: APT fixed target resolver tells you.

7) How far has the star moved in Declination since 2015 November?

8) What Acquisition Filter should be selected for this star?

9) What Acquisition Readout Pattern should you select?

10) How many Acquisition Groups/Int did you select?

11) What values does this yield for the Acq Exposure Time parameters?

Continue to MIRI MRS Parameters on next page....

MIRI MRS Parameters

1) What Primary Channel should be chosen?

2) Which Dither Type is best?

3) What should the Dither be 'Optimized For':

4) Should Simultaneous Imaging be used?

5) What channel and Wavelength sub-band does the peak of the 8 micron PAH fall in?

6) How many exposures are specified in the Exposure Parameters Window?

7) What Readout Pattern is recommended for the source flux?

8) What Exposure Parameters will give adequate S/N for our science goal?

9) Is there any reason to use different exposure parameters for the MRSLONG and MRSSHORT detectors?

10) Is a dedicated background required for the science?

11) Where can the background be located to make best use of the simultaneous imaging?