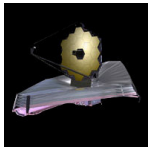

1220 - NIRSpec IFS of BR1202 and LBQS0302-0019

Cycle: 1, Proposal Category: GTO

INVESTIGATORS

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Observation Folder				
	1	Obs. of BR1202	NIRSpec IFU Spectroscopy	(1) BR1202-F4.69
	2	Obs. of LBQS 0302-0019 + Jil	NIRSpec IFU Spectroscopy	(2) LBQS0302-0019+JIL

ABSTRACT

(Update June 2019 : Observations of LBQS0302-0019 added)

This program (FERRUIT_3042 - 3043) is part of the “Physics of Galaxy Assembly IFU survey”

BR1202-0725 is a galaxy group at z~4.7 composed of a QSO and two SMGs. The primary goal of these observations is to investigate the physics of AGN-driven outflows of the QSO and the impact on its host galaxy. In addition, we exploit the JWST NIRSpec IFU capability and sensitivity to

study the physical properties of the two dust obscured companions and the origin of two Lya sources in the same field of view.
LBQS0302-0019 is an ongoing major merger of two galaxies at z~3.3 where one galaxy is a bright QSO and the companion galaxy hosts an obscured AGN. The primary goal of these observations is to investigate the star formation properties in the merging system and to detect extended AGN-driven outflows and the role they play for shaping the start forming properties of the host galaxies.

OBSERVING DESCRIPTION

June 2019: Observations of LBQS0302-0019+Jil added

BR1202-0725 is a system at z 4.7 composed of a SMG galaxy and a QSO, with a projected separation of 24 kpc. Recent observations have also revealed the presence of a dust obscured galaxy at South-West of the QSO and a Lyalpha-emitter between the QSO and SMG.
The selected gratings and filters (G235H/G170LP and G395/F290LP) allow us to observe and spectroscopically resolve the rest-frame optical strong lines ([O III], H, H,[NII]) at z=4.7.
Because the main sources are spatially separated by a projected distance larger than 3 arcsec, we have made a mosaic of two tails with a overlap of 10%.

LBQS0302-0019+Jil is a dual AGN system at z~3 composed of a unobscured QSO and an obscured AGN with a projected separation of ~20kpc (2.9arcsec).
The G235/G170LP grating is sufficient to cover all the important line ratios from Hbeta to [NII] at z=3.3. Due to the position and focal plane rotation of NIRSpec the diagonal of the FoV (4.3arcsec) is orientated along the major axis of the separation so that the system is still well covered in a single dither exposure. The central coordinates are therefore adjusted to the mid-point between two components.

July 2017
Each tail is composed of four exposures with a CYCLING dither pattern. We have selected a pattern size of 0.25 arcsec (SMALL) to have high sensitivity in a FOV of ~3"x3".
Each exposure has only 1 integration that includes 8 groups.
The total science time is 2.60h (total time is 4.85h).
Note that we had to scale down the science exposure times from 2.92h to 2.60h due to the larger overheads.

November 2017 APT version 25.4.0.1
Each tail is composed of four exposures with a CYCLING dither pattern. We have selected a pattern size of 0.5 arcsec (MEDIUM) to have a better coverage of the FOV
We increase the total time allocated to this program:
Each exposure has only 1 integration that includes 12 groups.
The total science time is 3.89h (total time is 6.83h).

January 2018 APT version 25.4.2
WATA has been removed after checking that the guide stars have coordinate errors << 0.1” (i.e GAIA stars)
The detector readout has been changed from irs2 to irs2rapid to improve temporal resolution for CR detection/rejection.
Each exposure has only 1 integration that includes 60 irs2rapid groups.
The total science time is 3.89h (total time is 6.18h).
The coordinates of the target are sliglthy different from that used in the APT file submitted in April. We have modified the cooridnates
to have a better sky coverege of the system.

June 2019 APT version 27.1.1
A new target has been added (LBQS0302)

No changes for BR1202

Proposal 1220 - Targets - NIRSpec IFS of BR1202 and LBQS0302-0019

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	BR1202-F4.69	RA: 12 05 23.0471 (181.3460296d) Dec: -07 42 31.65 (-7.70879d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Quasars]* *Extended=YES*				
(2)	LBQS0302-0019+JIL	RA: 03 04 49.9590 (46.2081625d) Dec: -00 08 13.25 (-.13701d) Equinox: J2000	Epoch of Position: 2000	
Comments: The target coordinates were adjusted such that they correspond to the location between the two dual AGN so that we efficiently use the available FOV (BH, 31/5/19) *Category=Galaxy* *Description=[High-redshift galaxies, Quasar-galaxy pairs, Quasars]* *Extended=YES*				

Observation

Proposal 1220, Observation 1: Obs. of BR1202

Thu Oct 17 16:00:12 GMT 2019

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Diagnostics

(Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	BR1202-F4.69	RA: 12 05 23.0471 (181.3460296d) Dec: -07 42 31.65 (-7.70879d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Quasars]
Extended=YES

Template

TA Method
NONE

Mosaic

Rows	Columns	Row Overlap %	Column Overlap %	Row shift	Column shift	Tile Order
1	2	10.0	10.0	-10.0	10.0	DEFAULT

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	CYCLING	MEDIUM	1	4	

Spectral Elements

#	Grating/Filter	Readout Pattern	Groups/Int	Integrations/Exp	Leakcal	Dither	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	G235H/F170LP	NRSIRS2RAPID	60	1	false	true	NONE	4	4	3559.689	
2	G395H/F290LP	NRSIRS2RAPID	60	1	false	true	NONE	4	4	3559.689	

Special Requirements	Aperture PA Range 247.893 to 253.893 Degrees (V3 109.000025 to 115.000025)

Observation

Proposal 1220, Observation 2: Obs. of LBQS 0302-0019 + Jil Thu Oct 17 16:00:12 GMT 2019

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Diagnostics

(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	LBQS0302-0019+JIL	RA: 03 04 49.9590 (46.2081625d) Dec: -00 08 13.25 (-.13701d) Equinox: J2000	Epoch of Position: 2000	

Comments: The target coordinates were adjusted such that they correspond to the location between the two dual AGN so that we efficiently use the available FOV (BH, 31/5/19)
Category=Galaxy
Description=[High-redshift galaxies, Quasar-galaxy pairs, Quasars]
Extended=YES

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	CYCLING	MEDIUM	1	4	

Spectral Elements

#	Grating/Filter	Readout Pattern	Groups/Int	Integrations/Exp	Leakcal	Dither	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	G235H/F170LP	NRSIRS2RAPID	60	1	false	true	NONE	4	4	3559.689	