



6565 - Narrow and broadband imaging of an edge on galaxy

Cycle: 2, Proposal Category: DD

INVESTIGATORS

| <i>Name</i> | <i>Institution</i> |
|--|---|
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| Dr. Christopher Britt (CoI) (Contact) | Space Telescope Science Institute |
| Joseph DePasquale (CoI) | Space Telescope Science Institute |
| Dr. Quyen Hart (CoI) | Space Telescope Science Institute |
| Alyssa Pagan (CoI) | Space Telescope Science Institute |
| Yesenia Perez (CoI) | Space Telescope Science Institute |
| Christine Pulliam (CoI) | Space Telescope Science Institute |

OBSERVATIONS

| <i>Folder</i> | <i>Observation</i> | <i>Label</i> | <i>Observing Template</i> | <i>Science Target</i> |
|-------------------|--------------------|------------------------------|---------------------------|----------------------------|
| Lenticular Galaxy | | | | |
| | 1 | Lenticular_Galaxy_MI RI | MIRI Imaging | (1) Lenticular_Galaxy |
| | 2 | Lenticular_Galaxy_NI RCam | NIRCam Imaging | (1) Lenticular_Galaxy |
| | 3 | Lenticular_Galaxy_NI RCam | NIRCam Imaging | (1) Lenticular_Galaxy |
| | 5 | Lenticular_Galaxy_NI RCam | NIRCam Imaging | (2) Lenticular_Galaxy_Tile |

ABSTRACT

We will observe this galaxy with NIRCam and MIRI in both narrow and broadband filters to capture the stellar continuum, neutral hydrogen gas, and PAH emission from the relatively small disk of this lenticular galaxy.

OBSERVING DESCRIPTION

At <10 Mpc distant, this galaxy is nearby enough that emission lines are not redshifted beyond the transmission windows of narrowband filters. We will use the F212N filter on NIRCcam to isolate neutral hydrogen gas, as well as F335M to capture PAH emission in the disk. The broadband filters F090W, F200W, F277W, and F444W will provide stellar continuum colors as well as resolving globular clusters and brighter stars. MIRI observations in F770W, F1130W, and F1280W will target PAH emission in the disk.

Proposal 6565 - Targets - Narrow and broadband imaging of an edge on galaxy

| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Miscellaneous |
|---------------|------------------------|--|--|--------------------------|---------------|
| | (1) | Lenticular_Galaxy | RA: 12 39 59.3769 (189.9974038d) Dec: -11 37 21.54 (-11.62265d) Equinox: J2000 <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=Galaxy Description=[Galaxy halos, Lenticular galaxies] | Epoch of Position: 2000 | |
| (2) | Lenticular_Galaxy_Tile | RA: 12 39 51.6860 (189.9653583d) Dec: -11 36 47.77 (-11.61327d) Equinox: J2000 <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=Galaxy Description=[Galaxy halos, Lenticular galaxies] | Epoch of Position: 2000 | | |

Proposal 6565 - Observation 1 - Narrow and broadband imaging of an edge on galaxy

Fri Mar 14 20:00:23 GMT 2025

| Observation | Proposal 6565, Observation 1: Lenticular_Galaxy_MIRI Diagnostic Status: Warning Observing Template: MIRI Imaging | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--------------------------|------------------|--------------------|----------------|---------------|--------------------|---------------------|------------------|------|-------------|--------------------|--------------------------|------------------|--------------------|-------------------|--|-------------------------|---------------------|--|---------|-------|---------|----|---|---|----------|---|-------|---------|--|---|--------|--------|----|---|---|----------|---|---|---------|--|---|--------|--------|----|---|---|----------|---|---|---------|--|
| Diagnostics | (Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:2) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:3) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:4) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:5) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:6) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:7) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:8) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fixed Targets | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>Lenticular_Galaxy</td> <td>RA: 12 39 59.3769 (189.9974038d) Dec: -11 37 21.54 (-11.62265d) Equinox: J2000</td> <td>Epoch of Position: 2000</td> <td></td> </tr> <tr> <td colspan="5"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> <i>Category=Galaxy</i> <i>Description=[Galaxy halos, Lenticular galaxies]</i> </td> </tr> </tbody> </table> | | | | | | | | | | # | Name | Target Coordinates | Targ. Coord. Corrections | Miscellaneous | (1) | Lenticular_Galaxy | RA: 12 39 59.3769 (189.9974038d) Dec: -11 37 21.54 (-11.62265d) Equinox: J2000 | Epoch of Position: 2000 | | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> <i>Category=Galaxy</i> <i>Description=[Galaxy halos, Lenticular galaxies]</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> <i>Category=Galaxy</i> <i>Description=[Galaxy halos, Lenticular galaxies]</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Template | Subarray FULL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mosaic | <table border="1"> <thead> <tr> <th>Rows</th> <th>Columns</th> <th>Row Overlap %</th> <th>Column Overlap %</th> <th>Row shift (deg)</th> <th>Column shift (deg)</th> <th>Tile Order</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>2</td> <td>10.0</td> <td>10.0</td> <td>-10.0</td> <td>0.0</td> <td>DEFAULT</td> </tr> </tbody> </table> | | | | | | | | | | Rows | Columns | Row Overlap % | Column Overlap % | Row shift (deg) | Column shift (deg) | Tile Order | 4 | 2 | 10.0 | 10.0 | -10.0 | 0.0 | DEFAULT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rows | Columns | Row Overlap % | Column Overlap % | Row shift (deg) | Column shift (deg) | Tile Order | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 2 | 10.0 | 10.0 | -10.0 | 0.0 | DEFAULT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dithers | <table border="1"> <thead> <tr> <th>#</th> <th>Dither Type</th> <th>Starting Point</th> <th>Number of Points</th> <th>Points</th> <th>Starting Set</th> <th>Number of Sets</th> <th>Optimized For</th> <th>Direction</th> <th>Pattern Size</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CYCLING</td> <td>1</td> <td>6</td> <td></td> <td>6</td> <td>1</td> <td></td> <td></td> <td>LARGE</td> </tr> </tbody> </table> | | | | | | | | | | # | Dither Type | Starting Point | Number of Points | Points | Starting Set | Number of Sets | Optimized For | Direction | Pattern Size | 1 | CYCLING | 1 | 6 | | 6 | 1 | | | LARGE | | | | | | | | | | | | | | | | | | | | | | | | |
| # | Dither Type | Starting Point | Number of Points | Points | Starting Set | Number of Sets | Optimized For | Direction | Pattern Size | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | CYCLING | 1 | 6 | | 6 | 1 | | | LARGE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spectral Elements | <table border="1"> <thead> <tr> <th>#</th> <th>Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Exposures/Dith</th> <th>Dither</th> <th>Total Dithers</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>F770W</td> <td>FASTR1</td> <td>15</td> <td>1</td> <td>1</td> <td>Dither 1</td> <td>6</td> <td>6</td> <td>249.754</td> <td></td> </tr> <tr> <td>2</td> <td>F1130W</td> <td>FASTR1</td> <td>15</td> <td>1</td> <td>1</td> <td>Dither 1</td> <td>6</td> <td>6</td> <td>249.754</td> <td></td> </tr> <tr> <td>3</td> <td>F1280W</td> <td>FASTR1</td> <td>15</td> <td>1</td> <td>1</td> <td>Dither 1</td> <td>6</td> <td>6</td> <td>249.754</td> <td></td> </tr> </tbody> </table> | | | | | | | | | | # | Filter | Readout Pattern | Groups/Int | Integrations/Exp | Exposures/Dith | Dither | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID | 1 | F770W | FASTR1 | 15 | 1 | 1 | Dither 1 | 6 | 6 | 249.754 | | 2 | F1130W | FASTR1 | 15 | 1 | 1 | Dither 1 | 6 | 6 | 249.754 | | 3 | F1280W | FASTR1 | 15 | 1 | 1 | Dither 1 | 6 | 6 | 249.754 | |
| # | Filter | Readout Pattern | Groups/Int | Integrations/Exp | Exposures/Dith | Dither | Total Dithers | Total Integrations | Total Exposure Time | ETC Wkbk.Calc ID | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | F770W | FASTR1 | 15 | 1 | 1 | Dither 1 | 6 | 6 | 249.754 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | F1130W | FASTR1 | 15 | 1 | 1 | Dither 1 | 6 | 6 | 249.754 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | F1280W | FASTR1 | 15 | 1 | 1 | Dither 1 | 6 | 6 | 249.754 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Proposal 6565 - Observation 1 - Narrow and broadband imaging of an edge on galaxy

Special Requirements

Before Date 12-JUN-2024:00:00:00
Group Visits within 53.0 Days
Aperture PA Range 109.83544897 to 111.83544897 Degrees (V3 105.0 to 107.0)
Aperture PA Range 289.83544897 to 293.83544897 Degrees (V3 285.0 to 289.0)
Visits Same PA

Proposal 6565 - Observation 2 - Narrow and broadband imaging of an edge on galaxy

Fri Mar 14 20:00:23 GMT 2025

| | | | | | | | |
|----------------------|--|----------------------------|--|---------------------------------|------------------------|---------------------------|-------------------|
| Observation | <p>Proposal 6565, Observation 2: Lenticular_Galaxy_NIRCam</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | |
| Diagnostics | <p>(Lenticular_Galaxy_NIRCam (Obs 2)) Warning (Form): This observation is split across multiple visits using multiple filters. Not selecting the sequence option may result in execution of the visits in a non-numerical order and is not recommended.</p> <p>(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:2) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:3) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:4) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:5) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:6) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:7) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:8) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:9) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:10) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:11) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:12) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:13) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:14) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:15) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:16) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:17) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 2:18) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Miscellaneous | | |
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| | <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Galaxy halos, Lenticular galaxies]</i></p> | | | | | | |
| Template | Module | Subarray | | Target Placement | | | |
| | ALL | FULL | | Module Gap | | | |
| Mosaic | Rows | Columns | Row Overlap % | Column Overlap % | Row shift (deg) | Column shift (deg) | Tile Order |
| | 3 | 1 | 10.0 | 10.0 | 0.0 | 0.0 | DEFAULT |
| Dithers | # | Primary Dither Type | Primary Dithers | Subpixel Dither Type | Dither Size | Subpixel Positions | |
| | 1 | FULLBOX | 5TIGHT | STANDARD | | 1 | |

Proposal 6565 - Observation 2 - Narrow and broadband imaging of an edge on galaxy

| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | ETC Wkbk.Calc ID |
|----------------------|---|--------------|-------------|-----------------|------------|------------------|--------------------|---------------|---------------------|------------------|
| | 1 | F090W | F277W | SHALLOW2 | 5 | 1 | 5 | 5 | 1181.045 | |
| | 2 | F212N | F335M | SHALLOW2 | 5 | 2 | 10 | 5 | 2415.773 | |
| | 3 | F200W | F444W | SHALLOW2 | 5 | 1 | 5 | 5 | 1181.045 | |
| Special Requirements | Before Date 12-JUN-2024:00:00:00 Group Visits within 53.0 Days Aperture PA Range 74.92542306 to 78.92542306 Degrees (V3 75.0 to 79.0) Aperture PA Range 92.92542306 to 108.92542306 Degrees (V3 93.0 to 109.0) Aperture PA Range 254.92542306 to 263.92542306 Degrees (V3 255.0 to 264.0) Aperture PA Range 271.92542306 to 281.92542306 Degrees (V3 272.0 to 282.0) Aperture PA Range 286.92542306 to 287.92542306 Degrees (V3 287.0 to 288.0) Visits Same PA Guide Star in Guider 1 | | | | | | | | | |

Proposal 6565 - Observation 3 - Narrow and broadband imaging of an edge on galaxy

Fri Mar 14 20:00:23 GMT 2025

| | | | | | | | | | | |
|--|--|--|---------------------------|---------------------------------|-------------------------|---------------------------|---------------------------|----------------------|----------------------------|-------------------------|
| Observation | Proposal 6565, Observation 3: Lenticular_Galaxy_NIRCam Diagnostic Status: Warning Observing Template: NIRCam Imaging | | | | | | | | | |
| Diagnostics | (Lenticular_Galaxy_NIRCam (Obs 3)) Warning (Form): This observation is split across multiple visits using multiple filters. Not selecting the sequence option may result in execution of the visits in a non-numerical order and is not recommended. (Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 3:2) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 3:3) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 3:4) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 3:5) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 3:6) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
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| Template | Module | Subarray | | | Target Placement | | | | | |
| ALL | FULL | | | Module Gap | | | | | | |
| Mosaic | Rows | Columns | Row Overlap % | Column Overlap % | Row shift (deg) | Column shift (deg) | Tile Order | | | |
| 3 | 1 | 10.0 | 10.0 | 0.0 | 0.0 | ROW_ORDER | | | | |
| Dithers | # | Primary Dither Type | Primary Dithers | Subpixel Dither Type | Dither Size | Subpixel Positions | | | | |
| 1 | FULLBOX | 5TIGHT | STANDARD | | 1 | | | | | |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | ETC Wkbk.Calc ID |
| 1 | F090W | F277W | SHALLOW2 | 5 | 1 | 5 | 5 | 1181.045 | | |
| 2 | F212N | F335M | SHALLOW2 | 5 | 2 | 10 | 5 | 2415.773 | | |
| 3 | F200W | F444W | SHALLOW2 | 5 | 1 | 5 | 5 | 1181.045 | | |

Proposal 6565 - Observation 3 - Narrow and broadband imaging of an edge on galaxy

Special Requirements

Group Visits within 53.0 Days
Aperture PA Range 74.92542306 to 78.92542306 Degrees (V3 75.0 to 79.0)
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Aperture PA Range 286.92542306 to 287.92542306 Degrees (V3 287.0 to 288.0)
Visits Same PA
Guide Star in Guider 1

Proposal 6565 - Observation 5 - Narrow and broadband imaging of an edge on galaxy

Fri Mar 14 20:00:23 GMT 2025

| | | | | | | | | | | |
|-----------------------------|---|----------------------------|--|------------------------|---------------------------------|-----------------------------|---------------------------|----------------------|----------------------------|---------------------------|
| Observation | <p>Proposal 6565, Observation 5: Lenticular_Galaxy_NIRCam</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | <p>(Visit 5:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 5:2) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 5:3) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 5:4) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 5:5) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 5:6) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> | | | | | | | | | |
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| Template | Module | | Subarray | | | Target Placement | | | | |
| | ALL | | FULL | | | Module Gap | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | FULLBOX | | 5TIGHT | | STANDARD | | | | 1 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | ETC Wkbk.Calc ID |
| | 1 | F090W | F277W | SHALLOW2 | 5 | 1 | 5 | 5 | 1181.045 | |
| | 2 | F212N | F335M | SHALLOW2 | 5 | 2 | 10 | 5 | 2415.773 | |
| | 3 | F200W | F444W | SHALLOW2 | 5 | 1 | 5 | 5 | 1181.045 | |
| Special Requirements | <p>Before Date 22-MAY-2025:00:00:00</p> <p>Sequence Visits within 53.0 Days</p> <p>Aperture PA Range 104.92542306 to 105.92542306 Degrees (V3 105.0 to 106.0)</p> <p>Visits Same PA</p> | | | | | | | | | |