



7184 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Cycle: 4, Proposal Category: GO

INVESTIGATORS

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OBSERVATIONS

| <i>Folder</i> | <i>Observation</i> | <i>Label</i> | <i>Observing Template</i> | <i>Science Target</i> |
|-----------------|--------------------|--------------|---------------------------|-----------------------|
| Long exposures | | | | |
| | 1 | | NIRCam Imaging | (1) WG0214-2105 |
| | 2 | | NIRCam Imaging | (2) J0659+1629 |
| | 3 | | NIRCam Imaging | (3) J0818-2613 |
| | 4 | | NIRCam Imaging | (4) 2M1134-2103 |
| | 5 | | NIRCam Imaging | (5) PSJ1606-2333 |
| | 6 | | NIRCam Imaging | (6) PSJ1721+8842 |
| | 7 | | NIRCam Imaging | (7) DESJ0053-2012 |
| | 8 | | NIRCam Imaging | (8) J2205-3727 |
| | 9 | | NIRCam Imaging | (9) DESJ0029-3814 |
| | 16 | | NIRCam Imaging | (10) J2100-4452 |
| Short exposures | | | | |
| | 10 | | NIRCam Imaging | (2) J0659+1629 |
| | 11 | | NIRCam Imaging | (3) J0818-2613 |
| | 12 | | NIRCam Imaging | (4) 2M1134-2103 |
| | 13 | | NIRCam Imaging | (5) PSJ1606-2333 |
| | 14 | | NIRCam Imaging | (6) PSJ1721+8842 |
| | 15 | | NIRCam Imaging | (7) DESJ0053-2012 |
| | 17 | | NIRCam Imaging | (10) J2100-4452 |

ABSTRACT

If confirmed, the Hubble tension, i.e. the 5-sigma discrepancy between direct measurements of H_0 in the local Universe with supernovae and the CMB value extrapolated to present day, would imply that the Λ CDM paradigm needs to be revised. Given the high stakes for cosmology, independent measurements are needed to confirm (or not) this tension.

Time delays in strongly lensed quasars is the only single-step method truly independent of any other cosmological probe. It requires precise time delays and deep sharp images of the lensed quasar host galaxy in each system, but for 10 systems that have new exquisite time delays, the lensed host galaxy is beyond the reach of HST imaging capabilities. The superior resolution, sensitivity, and redder wavelength coverage of JWST-NIRCam are necessary to transform these lenses into distance indicators.

In practice, the NIRCcam images will 1- constrain the radial slope of the lens mass models needed to turn time delays into H_0 and 2- allow us to identify any deviation of the mass model from elliptical symmetry, ensuring that this do not contribute significantly to the total error budget on H_0 . The new images will double the number of systems with time delays and all ancillary data needed. It will also significantly increase the scientific impact of Cycle 1 and 2 JWST/NIRspec observations, leading to 2.3% precision on H_0 .

OBSERVING DESCRIPTION

We request deep images with NIRCcam in the F200W and F356W filters for 10 strongly lensed quasars with well-measured time delays. Contrary to HST/WFC3, NIRCcam will have the sensitivity, resolution, and wavelength coverage to reveal the faint quasar host galaxies, lensed into Einstein rings. The choice of filter results from the best compromise between image resolution and the brightness of the high-redshift host galaxy. We will use the requested images to produce the most precise and accurate lens models to date and turn them into measurements of the Hubble Constant.

We apply a standard four-point dither pattern to mitigate detector defects and improve the final resolution of the images. For the brightest targets, we will use a combination of short exposures with fast readout on the SUB640 subarray and longer exposures on the full array. This strategy will allow us to mitigate the saturation of the bright quasar images while having enough stars in the large field-of-view exposures to reconstruct the PSF.

The exposure time is calculated to reach an SNR of at least 40 per pixel in the Einstein rings, which contain most of the lensing signal. This is reached in about 1 hour for a typical host galaxy at redshift ~ 2 .

Proposal 7184 - Targets - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

| # | Name | Target Coordinates | Targ. Coord. Corrections | Miscellaneous |
|---|---------------|--|--------------------------|---------------|
| (1) | WG0214-2105 | RA: 02 14 16.3500 (33.5681250d) Dec: -21 05 35.06 (-21.09307d) Equinox: J2000 | | |
| <i>Comments: Coordinates from Gaia Category=Galaxy Description=[Einstein rings, Elliptical galaxies, Quasars]</i> | | | | |
| (2) | J0659+1629 | RA: 06 59 4.0788 (104.7669950d) Dec: +16 29 9.27 (16.48591d) Equinox: J2000 | | |
| <i>Comments: Coordinates from Gaia Category=Galaxy Description=[Einstein rings, Elliptical galaxies, Quasars]</i> | | | | |
| (3) | J0818-2613 | RA: 08 18 28.4112 (124.6183800d) Dec: -26 13 24.53 (-26.22348d) Equinox: J2000 | | |
| <i>Comments: Coordinates from Gaia Category=Galaxy Description=[Einstein rings, Elliptical galaxies, Quasars]</i> | | | | |
| (4) | 2M1134-2103 | RA: 11 34 40.5120 (173.6688000d) Dec: -21 03 22.50 (-21.05625d) Equinox: J2000 | | |
| <i>Comments: Coordinates from Gaia Category=Galaxy Description=[Einstein rings, Elliptical galaxies, Quasars]</i> | | | | |
| (5) | PSJ1606-2333 | RA: 16 06 0.2160 (241.5009000d) Dec: -23 33 22.03 (-23.55612d) Equinox: J2000 | | |
| <i>Comments: Coordinates from Gaia Category=Galaxy Description=[Einstein rings, Elliptical galaxies, Quasars]</i> | | | | |
| (6) | PSJ1721+8842 | RA: 17 21 44.2488 (260.4343700d) Dec: +88 42 21.56 (88.70599d) Equinox: J2000 | | |
| <i>Comments: Coordinates from Gaia Category=Galaxy Description=[Einstein rings, Elliptical galaxies, Quasars]</i> | | | | |
| (7) | DESJ0053-2012 | RA: 00 53 44.3800 (13.4349167d) Dec: -20 12 32.76 (-20.20910d) Equinox: J2000 | | |
| <i>Comments: Category=Galaxy Description=[Einstein rings, Elliptical galaxies, Quasars]</i> | | | | |
| (8) | J2205-3727 | RA: 22 05 44.2361 (331.4343171d) Dec: -37 27 1.57 (-37.45044d) Equinox: J2000 | | |
| <i>Comments: Coordinates from Gaia Category=Galaxy Description=[Einstein rings, Elliptical galaxies, Quasars]</i> | | | | |

Fixed Targets

Proposal 7184 - Targets - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

| | | |
|---|---------------|---|
| (9) | DESJ0029-3814 | RA: 00 29 40.6320 (7.4193000d) Dec: -38 14 26.16 (-38.24060d) Equinox: J2000 |
| <i>Comments: Coordinates from Gaia</i> <i>Category=Galaxy</i> <i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i> | | |
| (10) | J2100-4452 | RA: 21 00 14.8572 (315.0619050d) Dec: -44 52 6.63 (-44.86851d) Equinox: J2000 |
| <i>Comments: Coordinates from Gaia</i> <i>Category=Galaxy</i> <i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i> | | |

Proposal 7184 - Observation 1 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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|-----------------------------|--|----------------------------|---|------------------------|---------------------------------|-----------------------------|---------------------------|----------------------|----------------------------|------------------------|
| Observation | <p>Proposal 7184, Observation 1</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| 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) | WG0214-2105 | RA: 02 14 16.3500 (33.5681250d) Dec: -21 05 35.06 (-21.09307d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | Subarray | | | Target Placement | | | | |
| | ALL | | FULL | | | Module Gap | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | Subpixel Positions | |
| | 1 | NONE | | | | STANDARD | | | 4 | |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | SHALLOW2 | 6 | 3 | 12 | 4 | 3564.608 | |
| Special Requirements | Offset 99.0 arcsec, 12.5 arcsec | | | | | | | | | |

Proposal 7184 - Observation 2 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 2</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| 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) | J0659+1629 | RA: 06 59 4.0788 (104.7669950d) Dec: +16 29 9.27 (16.48591d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | Subarray | | | Target Placement | | | | |
| | ALL | | FULL | | | Module Gap | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | Subpixel Positions | |
| | 1 | NONE | | | | STANDARD | | | 4 | |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | SHALLOW2 | 8 | 2 | 8 | 4 | 3221.031 | |
| Special Requirements | <p>Offset 99.0 arcsec, 12.5 arcsec</p> <p>Group Observations 2, 10, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 3 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 3</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (3) | J0818-2613 | RA: 08 18 28.4112 (124.6183800d) Dec: -26 13 24.53 (-26.22348d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | Subarray | | | Target Placement | | | | |
| | ALL | | FULL | | | Module Gap | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | Subpixel Positions | |
| | 1 | NONE | | | | STANDARD | | | 4 | |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | SHALLOW2 | 8 | 2 | 8 | 4 | 3221.031 | |
| Special Requirements | <p>Offset 99.0 arcsec, 12.5 arcsec</p> <p>Group Observations 3, 11, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 4 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 4</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 4:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (4) | 2M1134-2103 | RA: 11 34 40.5120 (173.6688000d) Dec: -21 03 22.50 (-21.05625d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | Subarray | | | Target Placement | | | | |
| | ALL | | FULL | | | Module Gap | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | Subpixel Positions | |
| | 1 | NONE | | | | STANDARD | | | 4 | |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | SHALLOW2 | 8 | 2 | 8 | 4 | 3221.031 | |
| Special Requirements | <p>Offset 99.0 arcsec, 12.5 arcsec</p> <p>Group Observations 4, 12, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 5 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 5</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 5:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (5) | PSJ1606-2333 | RA: 16 06 0.2160 (241.5009000d) Dec: -23 33 22.03 (-23.55612d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | Subarray | | | Target Placement | | | | |
| | ALL | | FULL | | | Module Gap | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | Subpixel Positions | |
| | 1 | NONE | | | | STANDARD | | | 4 | |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | SHALLOW2 | 8 | 2 | 8 | 4 | 3221.031 | |
| Special Requirements | <p>Offset 99.0 arcsec, 12.5 arcsec</p> <p>Group Observations 5, 13, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 6 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 6</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 6:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (6) | PSJ1721+8842 | RA: 17 21 44.2488 (260.4343700d) | | Dec: +88 42 21.56 (88.70599d) | | | Equinox: J2000 | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | Subarray | | | Target Placement | | | | |
| | ALL | | FULL | | | Module Gap | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | NONE | | | | STANDARD | | | | 4 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | SHALLOW2 | 8 | 2 | 8 | 4 | 3221.031 | |
| Special Requirements | <p>Offset 99.0 arcsec, 12.5 arcsec</p> <p>Group Observations 6, 14, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 7 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

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| Observation | <p>Proposal 7184, Observation 7</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 7:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (7) | DESJ0053-2012 | RA: 00 53 44.3800 (13.4349167d) Dec: -20 12 32.76 (-20.20910d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | Subarray | | | Target Placement | | | | |
| | ALL | | FULL | | | Module Gap | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | NONE | | | | STANDARD | | | | 4 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | SHALLOW2 | 8 | 2 | 8 | 4 | 3221.031 | |
| Special Requirements | <p>Offset 99.0 arcsec, 12.5 arcsec</p> <p>Group Observations 7, 15, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 8 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 8</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 8:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (8) | J2205-3727 | RA: 22 05 44.2361 (331.4343171d) Dec: -37 27 1.57 (-37.45044d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | Subarray | | | Target Placement | | | | |
| | ALL | | FULL | | | Module Gap | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | NONE | | | | STANDARD | | | | 4 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | SHALLOW2 | 6 | 3 | 12 | 4 | 3564.608 | |
| Special Requirements | Offset 99.0 arcsec, 12.5 arcsec | | | | | | | | | |

Proposal 7184 - Observation 9 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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|-----------------------------|--|----------------------------|--|------------------------|---------------------------------|-----------------------------|---------------------------|----------------------|----------------------------|---------------------------|
| Observation | <p>Proposal 7184, Observation 9</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 9:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (9) | DESJ0029-3814 | RA: 00 29 40.6320 (7.4193000d) Dec: -38 14 26.16 (-38.24060d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | Subarray | | | Target Placement | | | | |
| | ALL | | FULL | | | Module Gap | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | NONE | | | | STANDARD | | | | 4 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | SHALLOW2 | 6 | 3 | 12 | 4 | 3564.608 | |
| Special Requirements | Offset 99.0 arcsec, 12.5 arcsec | | | | | | | | | |

Proposal 7184 - Observation 16 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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|-----------------------------|--|----------------------------|---|------------------------|---------------------------------|-----------------------------|---------------------------|----------------------|----------------------------|------------------------|
| Observation | <p>Proposal 7184, Observation 16</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 16:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (10) | J2100-4452 | RA: 21 00 14.8572 (315.0619050d) Dec: -44 52 6.63 (-44.86851d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | Subarray | | | Target Placement | | | | |
| | ALL | | FULL | | | Module Gap | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | Subpixel Positions | |
| | 1 | NONE | | | | STANDARD | | | 4 | |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | SHALLOW2 | 8 | 2 | 8 | 4 | 3221.031 | |
| Special Requirements | <p>Offset 99.0 arcsec, 12.5 arcsec</p> <p>Group Observations 16, 17, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 10 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 10</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 10:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (2) | J0659+1629 | RA: 06 59 4.0788 (104.7669950d) Dec: +16 29 9.27 (16.48591d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | | | Subarray | | | | | |
| | B | | | | SUB640 | | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | NONE | | | | STANDARD | | | | 4 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | RAPID | 2 | 6 | 24 | 4 | 301.872 | |
| Special Requirements | <p>Offset 12.5 arcsec, 12.5 arcsec</p> <p>Group Observations 2, 10, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 11 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 11</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 11:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (3) | J0818-2613 | RA: 08 18 28.4112 (124.6183800d) Dec: -26 13 24.53 (-26.22348d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | | | Subarray | | | | | |
| | B | | | | SUB640 | | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | NONE | | | | STANDARD | | | | 4 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | RAPID | 2 | 6 | 24 | 4 | 301.872 | |
| Special Requirements | <p>Offset 12.5 arcsec, 12.5 arcsec</p> <p>Group Observations 3, 11, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 12 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 12</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | <p>(Visit 12:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (4) | 2M1134-2103 | RA: 11 34 40.5120 (173.6688000d) Dec: -21 03 22.50 (-21.05625d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i> <i>Category=Galaxy</i> <i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | | | Subarray | | | | | |
| | B | | | | SUB640 | | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | NONE | | | | STANDARD | | | | 4 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | RAPID | 2 | 6 | 24 | 4 | 301.872 | |
| Special Requirements | <p>Offset 12.5 arcsec, 12.5 arcsec</p> <p>Group Observations 4, 12, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 13 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 13</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 13:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (5) | PSJ1606-2333 | RA: 16 06 0.2160 (241.5009000d) Dec: -23 33 22.03 (-23.55612d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | | | Subarray | | | | | |
| | B | | | | SUB640 | | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | NONE | | | | STANDARD | | | | 4 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | RAPID | 2 | 6 | 24 | 4 | 301.872 | |
| Special Requirements | <p>Offset 12.5 arcsec, 12.5 arcsec</p> <p>Group Observations 5, 13, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 14 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 14</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 14:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (6) | PSJ1721+8842 | RA: 17 21 44.2488 (260.4343700d) Dec: +88 42 21.56 (88.70599d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | | | Subarray | | | | | |
| | B | | | | SUB640 | | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | NONE | | | | STANDARD | | | | 4 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | RAPID | 2 | 6 | 24 | 4 | 301.872 | |
| Special Requirements | <p>Offset 12.5 arcsec, 12.5 arcsec</p> <p>Group Observations 6, 14, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 15 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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| Observation | <p>Proposal 7184, Observation 15</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 15:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (7) | DESJ0053-2012 | RA: 00 53 44.3800 (13.4349167d) Dec: -20 12 32.76 (-20.20910d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments:</i> <i>Category=Galaxy</i> <i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | | | Subarray | | | | | |
| | B | | | | SUB640 | | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | NONE | | | | STANDARD | | | | 4 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | RAPID | 2 | 6 | 24 | 4 | 301.872 | |
| Special Requirements | <p>Offset 12.5 arcsec, 12.5 arcsec</p> <p>Group Observations 7, 15, Non-interruptible</p> | | | | | | | | | |

Proposal 7184 - Observation 17 - Measuring H0 with Deep NIRcam imaging of the next generation of time-delay lenses

Wed Aug 27 00:00:11 GMT 2025

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|-----------------------------|--|----------------------------|---|------------------------|---------------------------------|-----------------------------|---------------------------|----------------------|----------------------------|---------------------------|
| Observation | <p>Proposal 7184, Observation 17</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> | | | | | | | | | |
| Diagnostics | (Visit 17:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. | | | | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | | Targ. Coord. Corrections | | | Miscellaneous | | |
| | (10) | J2100-4452 | RA: 21 00 14.8572 (315.0619050d) Dec: -44 52 6.63 (-44.86851d) Equinox: J2000 | | | | | | | |
| | <p><i>Comments: Coordinates from Gaia</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Einstein rings, Elliptical galaxies, Quasars]</i></p> | | | | | | | | | |
| Template | Module | | | | Subarray | | | | | |
| | B | | | | SUB640 | | | | | |
| Dithers | # | Primary Dither Type | | Primary Dithers | | Subpixel Dither Type | | Dither Size | | Subpixel Positions |
| | 1 | NONE | | | | STANDARD | | | | 4 |
| Spectral Elements | # | Short Filter | Long Filter | Readout Pattern | Groups/Int | Integrations/Exp | Total Integrations | Total Dithers | Total Exposure Time | Optional ETC ID |
| | 1 | F200W | F356W | RAPID | 2 | 6 | 24 | 4 | 301.872 | |
| Special Requirements | <p>Offset 12.5 arcsec, 12.5 arcsec</p> <p>Group Observations 16, 17, Non-interruptible</p> | | | | | | | | | |