



16425 - A BULLET-LIKE CLUSTER AT REDSHIFT 1

Cycle: 28, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

| <i>Visit</i> | <i>Targets used in Visit</i> | <i>Configurations used in Visit</i> | <i>Orbits Used</i> | <i>Last Orbit Planner Run</i> | <i>OP Current with Visit?</i> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 03 | (1) SPT-CL-J0356-5337 | ACS/WFC | 1 | 11-Jan-2021 11:00:17.0 | yes |
| 04 | (1) SPT-CL-J0356-5337 | ACS/WFC | 1 | 11-Jan-2021 11:00:18.0 | yes |
| 05 | (1) SPT-CL-J0356-5337 | ACS/WFC | 1 | 11-Jan-2021 11:00:19.0 | yes |
| 06 | (1) SPT-CL-J0356-5337 | ACS/WFC | 1 | 11-Jan-2021 11:00:20.0 | yes |
| 07 | (1) SPT-CL-J0356-5337 | ACS/WFC | 1 | 11-Jan-2021 11:00:21.0 | yes |

| <i>Visit</i> | <i>Targets used in Visit</i> | <i>Configurations used in Visit</i> | <i>Orbits Used</i> | <i>Last Orbit Planner Run</i> | <i>OP Current with Visit?</i> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 08 | (1) SPT-CL-J0356-5337 | ACS/WFC | 1 | 11-Jan-2021 11:00:22.0 | yes |
| 11 | (1) SPT-CL-J0356-5337 | WFC3/IR | 1 | 11-Jan-2021 11:00:23.0 | yes |
| 12 | (1) SPT-CL-J0356-5337 | WFC3/IR | 1 | 11-Jan-2021 11:00:24.0 | yes |

8 Total Orbits Used

ABSTRACT

We propose observation of SPT-CL J0356-5337, a bullet-like cluster candidate at $z \sim 1$, in order to identify the multiple centers of X-Ray emission from the ICM. The configuration of this cluster shows two massive components at the cluster core, separated by 172kpc. One component is dominated by the BCG, whereas the other hosts a group of eight galaxies within 60kpc. Merger events happen on short timescales relative to the lifetime of the cluster; therefore only a handful of clusters have been observed yet, mainly at lower z . Combined with HST data we can constrain both the hot gas and the dark matter potential using strong and weak lensing. Studying such rare high redshift cluster brings more insight into our distant universe in preparation for future X-ray observatories.

OBSERVING DESCRIPTION

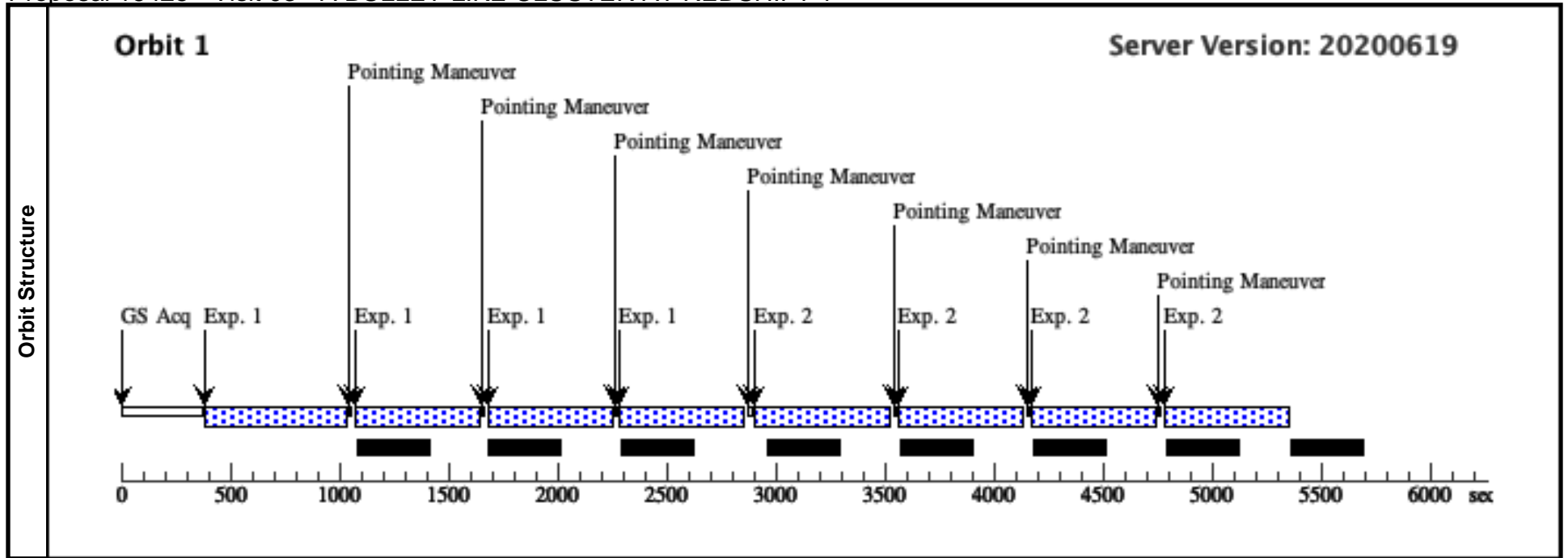
We request 8 orbits of HST observations. We request 6 orbits with the ACS camera. We will observe a mosaic of three overlapping ACS pointings with two different orientation angles each, yielding an approximately circular sky coverage in combination (with increased depth in the center). We will use CVZ opportunities to benefit from their increased orbital visibility. Each of the 6 visits of this mosaic will be split between the two filters F606W and F814W. Our analysis relies on the best signal-to-noise ratio possible in the F606W band to measure the shapes of the galaxies. Therefore, we request that the F606W exposures are taken approximately during the dark half of the orbit, minimizing Earthshine. The other half will be observed in F814W.

During the additional 2 orbits we will obtain WFC3/IR imaging of the cluster core, split between F110W and F160W to obtain colors for the strong lensing analysis and to identify candidates for high- z dropouts.

Proposal 16425 - Visit 03 - A BULLET-LIKE CLUSTER AT REDSHIFT 1

Mon Jan 11 16:00:25 GMT 2021

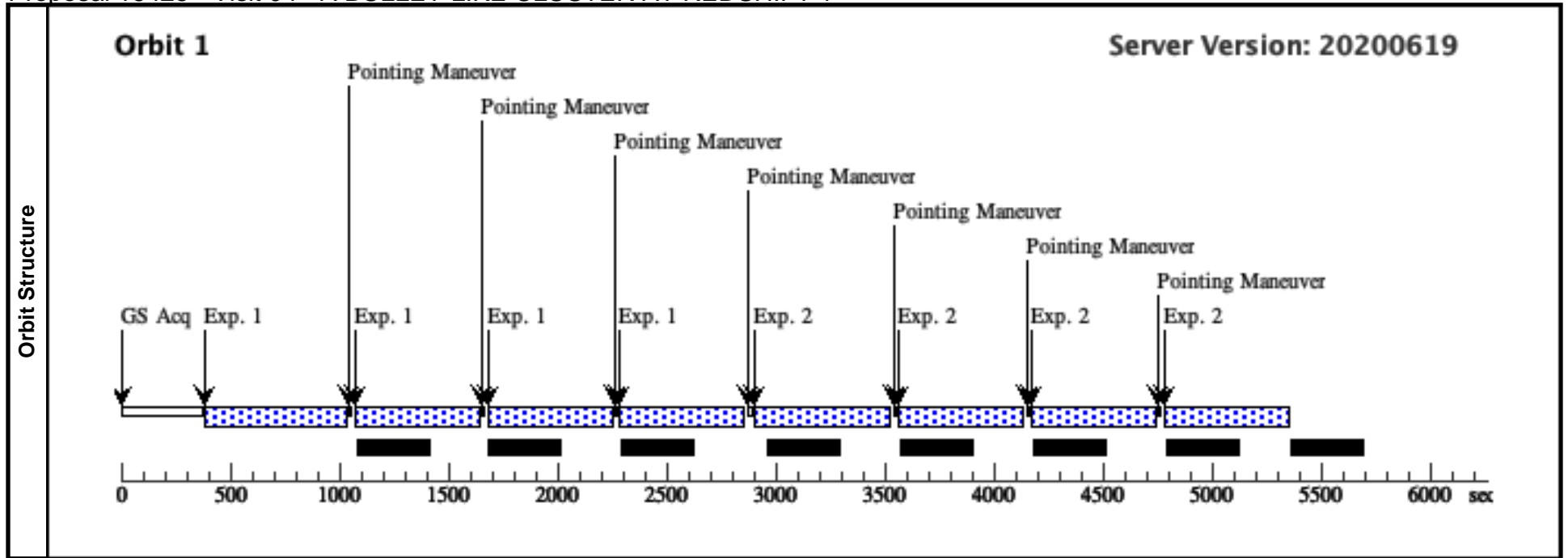
| Visit | Proposal 16425, Visit 03, pi Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ | | | | | | | | | |
|---|---|--|--|---------------------------|---------------|-------------------------|------------------|---|--|-------|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | |
| | (1) | Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false | | (1), (2) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | SPT-CL-J0356-5337 | RA: 03 56 20.2751 (59.0844796d) Dec: -53 37 50.80 (-53.63078d) Equinox: J2000 | Epoch of Position: 2015.5 | V=20+/-2 | Reference Frame: SIMBAD | | | | |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F814W | | POS TARG -61,-10 | Sequence 1-2 Non-Int in Visit 03 | 446 Secs (1784 Secs) | |
| | | | | | | | | Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in Visit 03 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] |
| | 2 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F606W | | POS TARG -61,-10 | Sequence 1-2 Non-Int in Visit 03 | 446 Secs (1784 Secs) | |
| | | | | | | | | Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in Visit 03 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] |



Proposal 16425 - Visit 04 - A BULLET-LIKE CLUSTER AT REDSHIFT 1

Mon Jan 11 16:00:25 GMT 2021

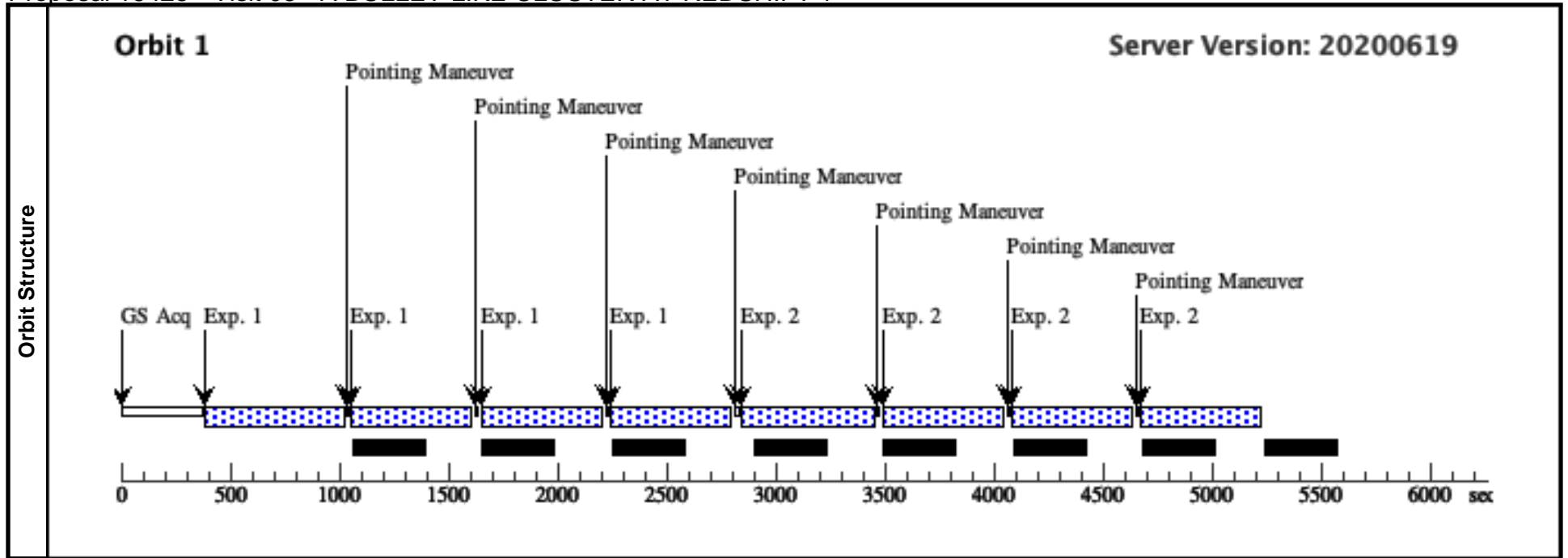
| Visit | Proposal 16425, Visit 04, pi Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ; SAME ORIENT AS 03 | | | | | | | | | |
|---|--|--|--|---------------------------|---------------|-------------------------|---|--|--|-------|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | |
| | (1) | Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false | | (1), (2) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | SPT-CL-J0356-5337 | RA: 03 56 20.2751 (59.0844796d) Dec: -53 37 50.80 (-53.63078d) Equinox: J2000 | Epoch of Position: 2015.5 | V=20+/-2 | Reference Frame: SIMBAD | | | | |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F814W | | POS TARG 59,-50 | Sequence 1-2 Non-Int in Visit 04 | 446 Secs (1784 Secs) | |
| | | | | | | | | Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in Visit 04 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] |
| 2 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F606W | | POS TARG 59,-50 | Sequence 1-2 Non-Int in Visit 04 | 446 Secs (1784 Secs) | | |
| | | | | | | | Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in Visit 04 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |



Proposal 16425 - Visit 05 - A BULLET-LIKE CLUSTER AT REDSHIFT 1

Mon Jan 11 16:00:25 GMT 2021

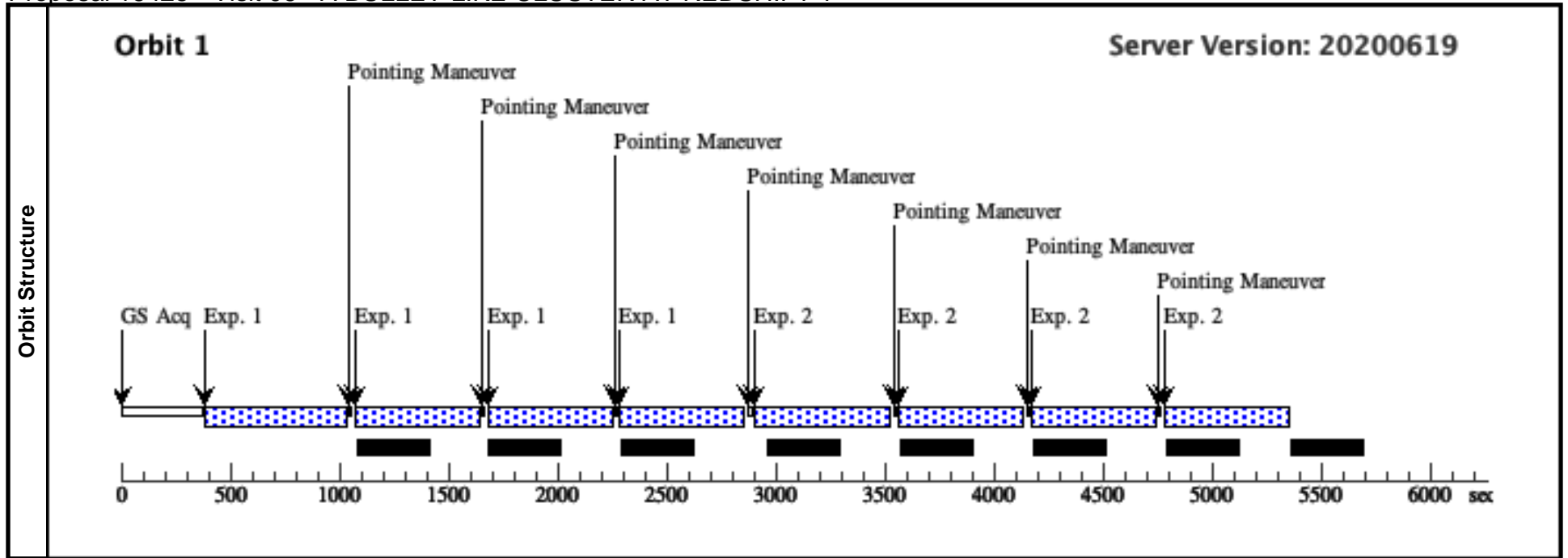
| Visit | Proposal 16425, Visit 05, pi Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ; SAME ORIENT AS 03 | | | | | | | | | |
|---|--|--|--|---------------------------|---------------|-------------------------|---|--|--|-------|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | |
| | (1) | Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false | | (1), (2) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | SPT-CL-J0356-5337 | RA: 03 56 20.2751 (59.0844796d) Dec: -53 37 50.80 (-53.63078d) Equinox: J2000 | Epoch of Position: 2015.5 | V=20+/-2 | Reference Frame: SIMBAD | | | | |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F814W | | POS TARG 10,60 | Sequence 1-2 Non-Int in Visit 05 | 431 Secs (1724 Secs) | |
| | | | | | | | | Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in Visit 05 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] |
| 2 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F606W | | POS TARG 10,60 | Sequence 1-2 Non-Int in Visit 05 | 431 Secs (1724 Secs) | | |
| | | | | | | | Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in Visit 05 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |



Proposal 16425 - Visit 06 - A BULLET-LIKE CLUSTER AT REDSHIFT 1

Mon Jan 11 16:00:25 GMT 2021

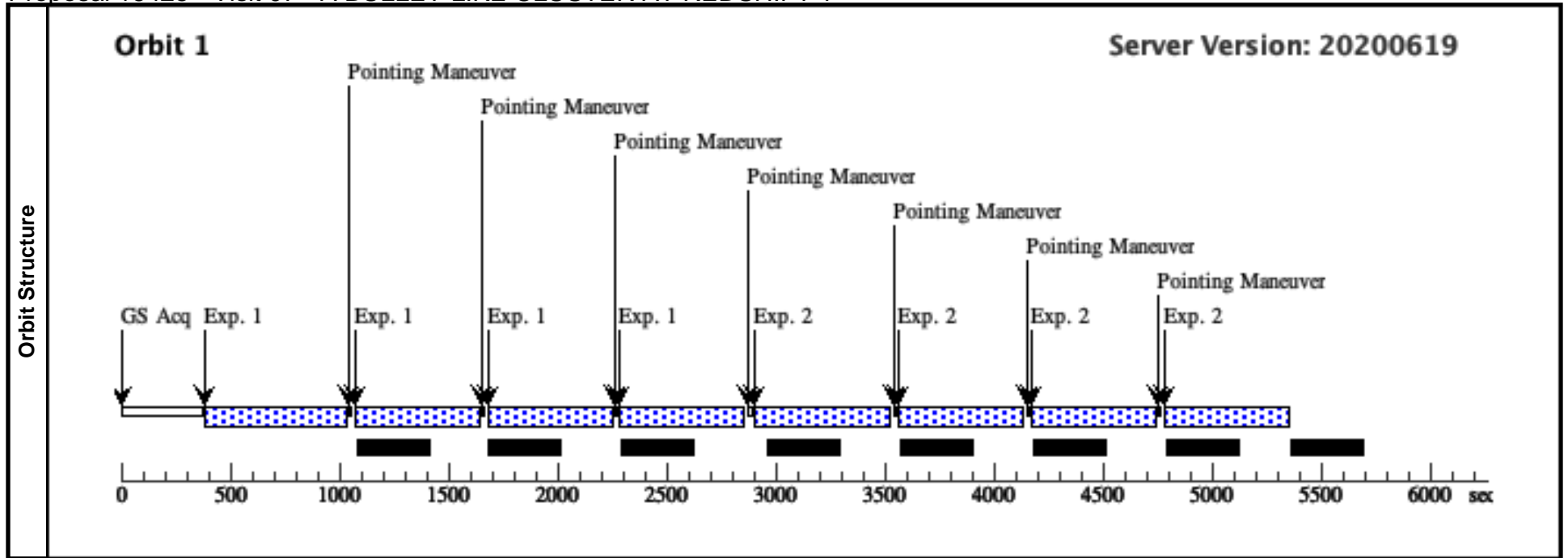
| Visit | Proposal 16425, Visit 06, pi Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ | | | | | | | | | |
|---|---|--|--|---------------------------|---------------|-------------------------|---|--|--|-------|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | |
| | (1) | Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false | | (1), (2) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | SPT-CL-J0356-5337 | RA: 03 56 20.2751 (59.0844796d) Dec: -53 37 50.80 (-53.63078d) Equinox: J2000 | Epoch of Position: 2015.5 | V=20+/-2 | Reference Frame: SIMBAD | | | | |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F814W | | POS TARG -60,-10 | Sequence 1-2 Non-Int in Visit 06 | 446 Secs (1784 Secs) | |
| | | | | | | | | Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in Visit 06 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] |
| 2 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F606W | | POS TARG -60,-10 | Sequence 1-2 Non-Int in Visit 06 | 446 Secs (1784 Secs) | | |
| | | | | | | | Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in Visit 06 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |



Proposal 16425 - Visit 07 - A BULLET-LIKE CLUSTER AT REDSHIFT 1

Mon Jan 11 16:00:25 GMT 2021

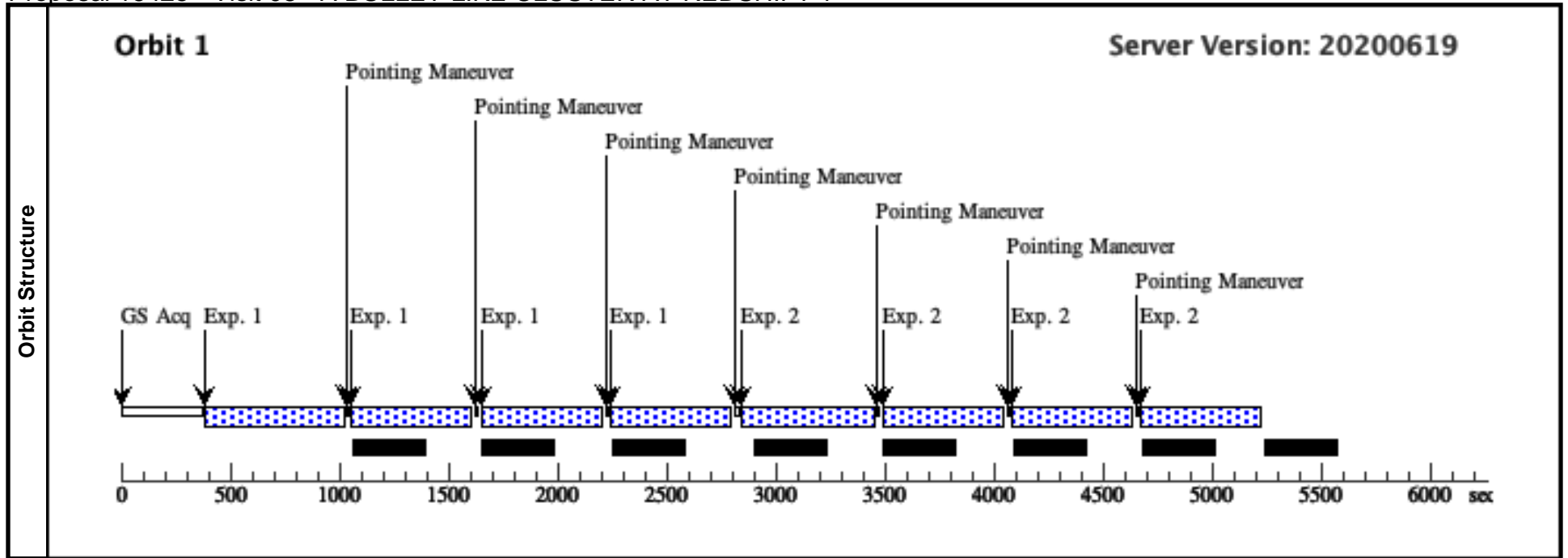
| Visit | Proposal 16425, Visit 07, pi Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ; SAME ORIENT AS 06 | | | | | | | | | |
|---|--|--|--|---------------------------|---------------|-------------------------|---|--|--|-------|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | |
| | (1) | Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false | | (1), (2) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | SPT-CL-J0356-5337 | RA: 03 56 20.2751 (59.0844796d) Dec: -53 37 50.80 (-53.63078d) Equinox: J2000 | Epoch of Position: 2015.5 | V=20+/-2 | Reference Frame: SIMBAD | | | | |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F814W | | POS TARG 58,-50 | Sequence 1-2 Non-Int in Visit 07 | 446 Secs (1784 Secs) | |
| | | | | | | | | Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in Visit 07 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] |
| 2 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F606W | | POS TARG 58,-50 | Sequence 1-2 Non-Int in Visit 07 | 446 Secs (1784 Secs) | | |
| | | | | | | | Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in Visit 07 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |



Proposal 16425 - Visit 08 - A BULLET-LIKE CLUSTER AT REDSHIFT 1

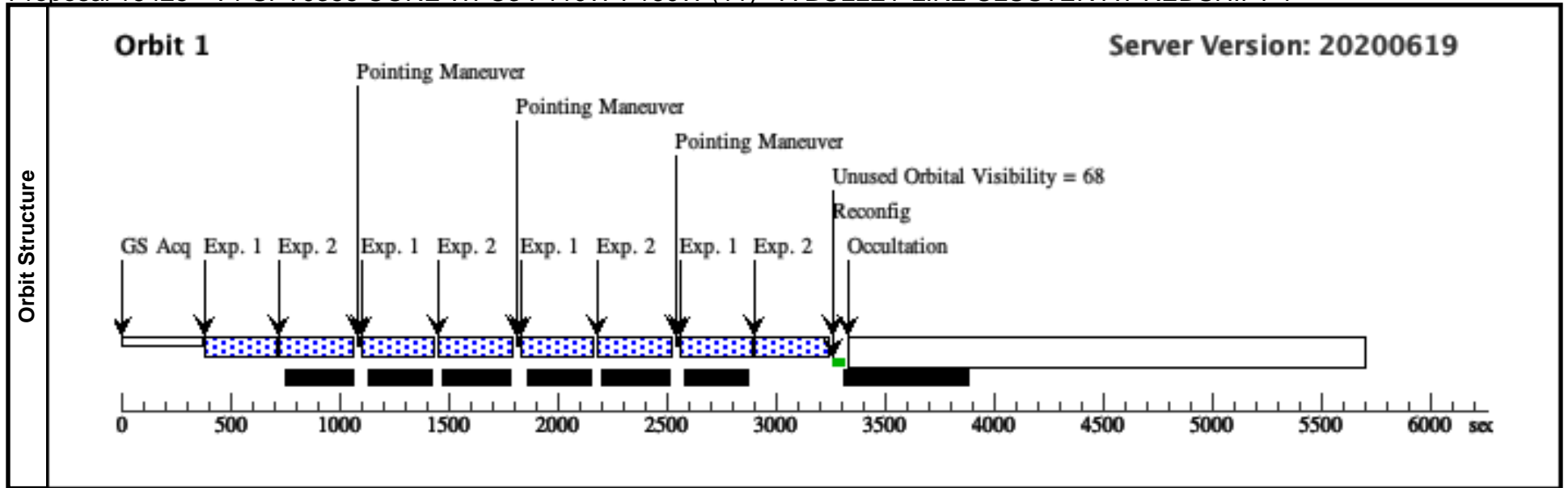
Mon Jan 11 16:00:25 GMT 2021

| Visit | Proposal 16425, Visit 08, pi Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: CVZ; SAME ORIENT AS 06 | | | | | | | | | |
|---|--|--|--|---------------------------|---------------|-------------------------|----------------|---|--|-------|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | |
| | (1) | Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false | | (1), (2) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | SPT-CL-J0356-5337 | RA: 03 56 20.2751 (59.0844796d) Dec: -53 37 50.80 (-53.63078d) Equinox: J2000 | Epoch of Position: 2015.5 | V=20+/-2 | Reference Frame: SIMBAD | | | | |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F814W | | POS TARG 11,60 | Sequence 1-2 Non-Int in Visit 08 | 431 Secs (1724 Secs) | |
| | | | | | | | | Pattern 1, Exps 1-1 in Sequence 1-2 Non-Int in Visit 08 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] |
| | 2 | | (1) SPT-CL-J0356-5337 | ACS/WFC, ACCUM, WFCENTER | F606W | | POS TARG 11,60 | Sequence 1-2 Non-Int in Visit 08 | 431 Secs (1724 Secs) | |
| | | | | | | | | Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in Visit 08 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] |



Proposal 16425 - V1 SPT0356 CORE WFC3 F110W-F160W (11) - A BULLET-LIKE CLUSTER AT REDSHIFT 1

| Visit | | Proposal 16425, V1 SPT0356 CORE WFC3 F110W-F160W (11), scheduling Mon Jan 11 16:00:25 GMT 2021 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|--|---|--|---|-----------------------------------|---------------|--|---|--------------------|--------------------------|--------|---------------|--------|----------------------|---|---------------------------|---------------|-------------------------|---------------------------------|-------|---|-------|-----------------------|-----------------------------|-------|-----------------------------------|--|--|---|-----|---|-------|-----------------------|-----------------------------|-------|-------------------------------|--|--|---|-----|
| Patterns | | Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| # | Primary Pattern | Secondary Pattern | Exposures | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (2) | Pattern Type=WFC3-IR-DITHER-BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=false | Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false | (1-2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fixed Targets | | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>SPT-CL-J0356-5337</td> <td>RA: 03 56 20.2751 (59.0844796d) Dec: -53 37 50.80 (-53.63078d) Equinox: J2000</td> <td>Epoch of Position: 2015.5</td> <td>V=20+/-2</td> <td>Reference Frame: SIMBAD</td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER]</p> | | | | | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (1) | SPT-CL-J0356-5337 | RA: 03 56 20.2751 (59.0844796d) Dec: -53 37 50.80 (-53.63078d) Equinox: J2000 | Epoch of Position: 2015.5 | V=20+/-2 | Reference Frame: SIMBAD | | | | | | | | | | | | | | | | | | | | | | |
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (1) | SPT-CL-J0356-5337 | RA: 03 56 20.2751 (59.0844796d) Dec: -53 37 50.80 (-53.63078d) Equinox: J2000 | Epoch of Position: 2015.5 | V=20+/-2 | Reference Frame: SIMBAD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Exposures | | <table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time (Total)/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>F110W</td> <td>(1) SPT-CL-J0356-5337</td> <td>WFC3/IR, MULTIACCUM, IR-FIX</td> <td>F110W</td> <td>SAMP-SEQ=SPARS 25; NSAMP=13</td> <td></td> <td>Pattern 2, Exps 1-2 in V1 SPT0356 CORE WFC3 F110W-F160W (11) (2)</td> <td>302.938471 Secs (1211.754 Secs) [=>(Pattern 1,1)] [=>(Pattern 1,2)] [=>(Pattern 2,1)] [=>(Pattern 2,2)]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>F160W</td> <td>(1) SPT-CL-J0356-5337</td> <td>WFC3/IR, MULTIACCUM, IR-FIX</td> <td>F160W</td> <td>NSAMP=14; SAMP-SEQ=SPARS25</td> <td></td> <td>Pattern 2, Exps 1-2 in V1 SPT0356 CORE WFC3 F110W-F160W (11) (2)</td> <td>327.938986 Secs (1311.756 Secs) [=>(Pattern 1,1)] [=>(Pattern 1,2)] [=>(Pattern 2,1)] [=>(Pattern 2,2)]</td> <td>[1]</td> </tr> </tbody> </table> | | | | | | | | | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit | 1 | F110W | (1) SPT-CL-J0356-5337 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | SAMP-SEQ=SPARS 25; NSAMP=13 | | Pattern 2, Exps 1-2 in V1 SPT0356 CORE WFC3 F110W-F160W (11) (2) | 302.938471 Secs (1211.754 Secs) [=>(Pattern 1,1)] [=>(Pattern 1,2)] [=>(Pattern 2,1)] [=>(Pattern 2,2)] | [1] | 2 | F160W | (1) SPT-CL-J0356-5337 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPARS25 | | Pattern 2, Exps 1-2 in V1 SPT0356 CORE WFC3 F110W-F160W (11) (2) | 327.938986 Secs (1311.756 Secs) [=>(Pattern 1,1)] [=>(Pattern 1,2)] [=>(Pattern 2,1)] [=>(Pattern 2,2)] | [1] |
| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | F110W | (1) SPT-CL-J0356-5337 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | SAMP-SEQ=SPARS 25; NSAMP=13 | | Pattern 2, Exps 1-2 in V1 SPT0356 CORE WFC3 F110W-F160W (11) (2) | 302.938471 Secs (1211.754 Secs) [=>(Pattern 1,1)] [=>(Pattern 1,2)] [=>(Pattern 2,1)] [=>(Pattern 2,2)] | [1] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | F160W | (1) SPT-CL-J0356-5337 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPARS25 | | Pattern 2, Exps 1-2 in V1 SPT0356 CORE WFC3 F110W-F160W (11) (2) | 327.938986 Secs (1311.756 Secs) [=>(Pattern 1,1)] [=>(Pattern 1,2)] [=>(Pattern 2,1)] [=>(Pattern 2,2)] | [1] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Proposal 16425 - V2 SPT0356 CORE WFC3 F110W-F160W (12) - A BULLET-LIKE CLUSTER AT REDSHIFT 1

| Visit | | Proposal 16425, V2 SPT0356 CORE WFC3 F110W-F160W (12), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | Mon Jan 11 16:00:25 GMT 2021 | | | |
|---|-------|---|---|--|---|--------------------------------|------------------------------|--|---|---|
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (2) | Pattern Type=WFC3-IR-DITHER-BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=false | Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false | (1-2) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | SPT-CL-J0356-5337 | RA: 03 56 20.2751 (59.0844796d) Dec: -53 37 50.80 (-53.63078d) Equinox: J2000 | Epoch of Position: 2015.5 | V=20+/-2 | Reference Frame: SIMBAD | | | | |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, HIGH REDSHIFT CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | F110W | (1) SPT-CL-J0356-5337 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | SAMP-SEQ=SPARS 25; NSAMP=13 | POS TARG 8,1 | | Pattern 2, Exps 1-2 in V2 SPT0356 CORE WFC3 F110W-F160W (12) (2) | 302.938471 Secs (1211.754 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] |
| 2 | F160W | (1) SPT-CL-J0356-5337 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPARS25 | POS TARG 8,1 | | Pattern 2, Exps 1-2 in V2 SPT0356 CORE WFC3 F110W-F160W (12) (2) | 327.938986 Secs (1311.756 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] | [1] |

