

2512 - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Framework

Cycle: 1, Proposal Category: GO

INVESTIGATORS

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OBSERVATIONS

Folder	Observation	Label	Observing Template	Science Target
260.01	(x2)			
	1	TOI 260.01 (T1)	NIRSpec Bright Object Time Series	(1) TOI-260
	2	TOI 260.01 (T2)	NIRSpec Bright Object Time Series	(1) TOI-260
776.01	(x2)			
	3	TOI-776.01 (T1)	NIRSpec Bright Object Time Series	(5) TOI-776
	4	TOI-776.01 (T2)	NIRSpec Bright Object Time Series	(5) TOI-776
776.02	(x2)		· ·	

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Folder Observation	Label	Observing Template	Science Target
5	TOI-776.02 (T1)	NIRSpec Bright Object Time Series	(5) TOI-776
6	TOI-776.02 (T2)	NIRSpec Bright Object Time Series	(5) TOI-776
562.01 (x1)			
7	TOI-562.01 (T1)	NIRSpec Bright Object Time Series	(6) TOI-562
836.01 (x1)			
8	TOI-836.01 (T1)	NIRSpec Bright Object Time Series	(7) TOI-836
836.02 (x2)			
9	TOI-836.02 (T1)	NIRSpec Bright Object Time Series	(7) TOI-836
10	TOI-836.02 (T2)	NIRSpec Bright Object Time Series	(7) TOI-836
134.01 (x3)			
11	TOI-134.01 (T1)	NIRSpec Bright Object Time Series	(8) TOI-134
12	TOI-134.01 (T2)	NIRSpec Bright Object Time Series	(8) TOI-134
13	TOI-134.01 (T3)	NIRSpec Bright Object Time Series	(8) TOI-134
455.01 (x1)			
14	TOI-455.01 (T1)	NIRSpec Bright Object Time Series	(9) TOI-455
175.01 (x2)			
15	TOI-175.01 (T1)	NIRSpec Bright Object Time Series	(3) TOI-175
16	TOI-175.01 (T2)	NIRSpec Bright Object Time Series	(3) TOI-175
402.01 (x1)			
17	TOI-402.01 (T1)	NIRSpec Bright Object Time Series	(16) TOI-402
402.02 (x2)			
18	TOI-402.02 (T1)	NIRSpec Bright Object Time Series	(16) TOI-402
19	TOI-402.02 (T2)	NIRSpec Bright Object Time Series	(16) TOI-402
19 WISEA Pre Imagir			
20	19 WISEA	NIRCam Imaging	(19) WISEA-J030148.40-163532.7

ABSTRACT

The last decades of exoplanet exploration have revealed that the diversity of planets within the Galaxy far exceeds that within our solar system. Specifically, Kepler revealed a new population of 1-3 Rearth short period planets that seem to bridge the gap between giants and terrestrials in our own bimodal planetary system. Their bulk properties imply diminishingly thin hydrogen envelopes, producing an intermediate physical state between planets with predominantly primordial atmospheres and those with secondary atmospheres. However, we lack observations to determine whether this

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is truly the case, how such atmospheres are produced, and how similar or different they are to solar system planets. Atmospheric composition provides the necessary additional dimension to unveil the nature of this new class of planet, which we maintain will be JWST's greatest exoplanet legacy. We have carefully constructed the first exoplanet atmospheres survey designed to build a critical link between atmospheric characterization and planetary demographics. We will observe 11 transiting exoplanets, including four pairs of planets in the same system. By utilizing JWST's unique capabilities, we will measure the relative abundances of major molecular species expected to provide key insights into the formation and evolution pathways of exoplanets. Through our holistic approach we will analyze planets individually, within their own system architectures, and ultimately as a population. This will culminate in a program that will provide the community with a necessary kickstart to future information-rich observations of small planets, and will ultimately sculpt JWST's lasting legacy.

OBSERVING DESCRIPTION

We will observe 11 planets around 8 stars, with 3 pairs of planets within the same stellar systems. We will observe each planet with the same observational mode and set-up for consistency. In total we will observe 19 individual transit events, where each planet's transit is observed between 1 - 3 times, to achieve the needed precision for the outlined science goals. We use NIRSpec in BOTS (Bright Object Time Series) mode, which requires the S1600A1 aperture with a fixed 1.6"x1.6" field of view (FoV). We will use the G395H/F290LP combination (2.87-5.27 microns) and SUB2048 subarray for all of our observations. This will ensure a uniform treatment of the data. This program is schedulable throughout cycle 1, and there are multiple opportunities throughout the year where our target stars are visible to JWST, each with multiple transit opportunities. Each observation must be scheduled to cover the transit of the planet. We have set the phase constraints to allow for a range of 60 minutes for the JWST observation start window for ease of scheduling. For each of our observations we will obtain a minimum of (2*Transit duration) + 1.75 hours. We anticipate needing to discard a maximum of 0.75 hours of data at the start of each observation due to detector settling effects which result in a ramplike increase in the flux measured which would be unusable in our analysis. Our targets have transit times ranging from 1.2 hours to 2.77 hours. We calculated the time needed for each of our observations based on our science goal of reaching 30ppm precision on all of our targets; in total, the time needed includes data prior to, during, and following the transit event to obtain an adequate baseline of the stellar flux. We will measure 19 transits over 11 targets with a science time of 85.21 hours, and a total charged time of 141.64 hours including the observatory resets, overheads, slewing, and target acquisition. As all of our targets are bright (J mag: 6.4 - 7.6), therefore we will conduct target acquisition (TA) on alternative targets to avoid saturation. For TA we will utilize the Wide Aperture Target Acquisition (WATA) mode on targets that are within the visit splitting distance of each of our target stars. We have selected sources with valid 2MASS J magnitudes and Gaia DR2 proper motions to ensure they are suitable for accurate TA. We used VizieR and Aladin to validate our sources, and the online STScI ETC to determine the set-up required. For 8/11 of our targets we will use the SUB32 subarray with the clear filter, for 2/11 we will use SUB2048 with the clear filter, and 1/11 requires the full field with the clear filter to achieve the needed signal-to-noise for TA. We will double check each of these with scheduling prior to conducting the observations to ensure success JWST Proposal 2512 (Created: Tuesday, October 12, 2021 at 5:01:12 PM Eastern Standard Time) - Overview of the program.

Proposal 2512 - Targets - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Framework

(1)	Name	Target Coordinates	Targ. Coord. Corrections Miscellaneous
	TOI-260	RA: 00 19 5.5243 (4.7730179d)	Proper Motion RA: -0.0024769094763926838 sec of time/yr
		Dec: -09 57 58.14 (-9.96615d)	Proper Motion Dec: -0.301435000096717 arcsec/yr
		Equinox: J2000	Epoch of Position: 2015.5
Comments	: This object was generated	by the targetselector and retrieved from the SIMBAD data	•
Category=	=Star	by the targetselector and retrieved from the Shinbilb data	
Descriptio Extended=	n=[Exoplanets] =NO		
(2)	260-TA-REF	RA: 00 19 4.9761 (4.7707337d)	Proper Motion RA: 17.227 mas/yr
		Dec: -09 57 34.35 (-9.95954d)	Proper Motion Dec: -14.517 mas/yr
		Equinox: J2000	Epoch of Position: 2015.5
Comments	: This object was generated	$by\ the\ target selector\ and\ retrieved\ from\ the\ 2MASS\ databate$	ase.
https://vizi 2MASS 00 JMag = 10 Category=	190502-0957345		gaia2&-c=004.77080912111%20-09.95960445301,eq=ICRS,rs=2&-out.orig=o
(3)	n=[Injrarea sources, visibi TOI-175	RA: 08 18 7.6215 (124.5317563d)	Proper Motion RA: 94.767 mas/yr
(3)	101-173	Dec: -68 18 46.80 (-68.31300d)	Proper Motion Dec: -340.470 mas/yr
		Equinox: J2000	Parallax: 0.0941385"
		Equiliox. J2000	Epoch of Position: 2015.5
Category=	0.018] C 2003yCat.22460 =Star	-	
	n=[Exoplanet Systems, M d	warfs]	
Descriptio	n=[Exoplanet Systems, M d	(warfs] RA: 08 17 58.5265 (124.4938604d)	Proper Motion RA: 0.471 mas/yr
Descriptio Extended=	n=[Exoplanet Systems, M d =NO	• -	Proper Motion RA: 0.471 mas/yr Proper Motion Dec: 9.750 mas/yr
Descriptio Extended=	n=[Exoplanet Systems, M d =NO	RA: 08 17 58.5265 (124.4938604d)	·
Description Extended= (4) Comments	m=[Exoplanet Systems, M d =NO 175-TA-REF :: 2MASS 08175852-681857	RA: 08 17 58.5265 (124.4938604d) Dec: -68 18 57.14 (-68.31587d) Equinox: J2000 2 - https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa	Proper Motion Dec: 9.750 mas/yr
Descriptio Extended= (4) Comments Gaia DR2 J mag = 1	m=[Exoplanet Systems, M d=NO 175-TA-REF :: 2MASS 08175852-681857 5271054865206500224 - h: 6.4Jmag 2MASS	RA: 08 17 58.5265 (124.4938604d) Dec: -68 18 57.14 (-68.31587d) Equinox: J2000 2 - https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa	Proper Motion Dec: 9.750 mas/yr Epoch of Position: 2015.5 962c973ee&-out.add=.&-source=II/246/out&2MASS===08175852-6818572
Descriptio Extended= (4) Comments Gaia DR2 J mag = 1 51.4" awa NOTE: DI Category=	n=[Exoplanet Systems, M d=NO] 175-TA-REF :: 2MASS 08175852-681857 5271054865206500224 - h. 6.4Jmag 2MASS y from target but within the	RA: 08 17 58.5265 (124.4938604d) Dec: -68 18 57.14 (-68.31587d) Equinox: J2000 2 - https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fasttps://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa962ccvisit splitting distance of 65" OGRAM TA reference star from GAIA DR2, ID 527105517	Proper Motion Dec: 9.750 mas/yr Epoch of Position: 2015.5 962c973ee&-out.add=.&-source=II/246/out&2MASS===08175852-6818572 973ee&-out.add=.&-source=I/345/gaia2&-c=124.49386581031%20-68.31583075341,eq=ICRS,rs=2&-out.or
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	TOI-562	RA: 09 36 1.7915 (144.0074646d)	Proper Motion RA: 0.009949091869526031 sec of
		Dec: -21 39 54.23 (-21.66506d)	time/yr
		Equinox: J2000	Proper Motion Dec: -0.9903110000777815 arcsec/yr Epoch of Position: 2015.5
Comments. Category=	: This object was generated	by the targetselector and retrieved from the SIMBAD data	abase.
Description Extended=	n=[Exoplanets]		
(7)	TOI-836	RA: 15 00 19.1712 (225.0798800d)	Proper Motion RA: -0.014663418930896694 sec of time/yr
		Dec: -24 27 15.11 (-24.45420d)	Proper Motion Dec: -0.027039999986300245 arcsec/yr
		Equinox: J2000	Epoch of Position: 2015.5
Comments. Category=		by the targetselector and retrieved from the SIMBAD data	abase.
Descriptio Extended=	n=[Exoplanets] =NO		
(8)	TOI-134	RA: 23 20 6.8620 (350.0285917d)	Proper Motion RA: -0.04274643160953483 sec of
		Dec: -60 03 56.63 (-60.06573d)	time/yr
		Equinox: J2000	Proper Motion Dec: -0.12778100001469284 arcsec/yr Epoch of Position: 2015.5
Commonto	This object was generated	by the targetselector and retrieved from the SIMBAD data	•
Category=	-Star	by the targetselector and retrieved from the SIMBAD data	uvuse.
Description Extended=	n=[Exoplanets] =NO		
(0)	TOI-455	RA: 03 01 50.9947 (45.4624779d)	Proper Motion RA: -0.025682752912145126 sec of
(9)			
(9)		Dec: -16 35 40.18 (-16.59449d)	time/yr Proper Motion Dec: 0.26851000000078784 arcsec/yr
(9)		Dec: -16 35 40.18 (-16.59449d) Equinox: J2000	Proper Motion Dec: -0.26851000000078784 arcsec/yr
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Comments. Category= Description Extended= (11) Comments.	:Star n=[Exoplanets] :NO 776-TA-REF :: This object was generated	Equinox: J2000 By the targetselector and retrieved from the SIMBAD data RA: 11 54 16.5226 (178.5688442d) Dec: -37 33 1.76 (-37.55049d)	Proper Motion Dec: -0.26851000000078784 arcsec/yr Epoch of Position: 2015.5 Proper Motion RA: 10.407 mas/yr Proper Motion Dec: -0.139 mas/yr Epoch of Position: 2015.5
Comments. Category= Description Extended= (11) Comments. 2MASS 11: Gaia DR2. Category=	:Star n=[Exoplanets] :NO 776-TA-REF :: This object was generated 541652-3733017 3460438662009633024 (ht	Equinox: J2000 By the targetselector and retrieved from the SIMBAD data RA: 11 54 16.5226 (178.5688442d) Dec: -37 33 1.76 (-37.55049d) Equinox: J2000 By the targetselector and retrieved from the 2MASS databitis://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa554d	Proper Motion Dec: -0.26851000000078784 arcsec/yr Epoch of Position: 2015.5 Abase. Proper Motion RA: 10.407 mas/yr Proper Motion Dec: -0.139 mas/yr Epoch of Position: 2015.5 Abase.
Comments. Category= Description Extended= (11) Comments. 2MASS 11: Gaia DR2: Category= Description	Star n=[Exoplanets] :NO 776-TA-REF :: This object was generated 541652-3733017 3460438662009633024 (ht Unidentified n=[Infrared sources, Visible	Equinox: J2000 By the targetselector and retrieved from the SIMBAD data RA: 11 54 16.5226 (178.5688442d) Dec: -37 33 1.76 (-37.55049d) Equinox: J2000 By the targetselector and retrieved from the 2MASS datab tps://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa554d	Proper Motion Dec: -0.26851000000078784 arcsec/yr Epoch of Position: 2015.5 abase. Proper Motion RA: 10.407 mas/yr Proper Motion Dec: -0.139 mas/yr Epoch of Position: 2015.5 base. 190616&-out.add=.&-source=1/345/gaia2&-c=178.56889388987%20-37.55047454330,eq=ICRS,rs=2&-out.orig=
Comments. Category= Description Extended= (11) Comments. 2MASS 11: Gaia DR2: Category= Description	:Star n=[Exoplanets] :NO 776-TA-REF :: This object was generated 541652-3733017 3460438662009633024 (ht	Equinox: J2000 RA: 11 54 16.5226 (178.5688442d) Dec: -37 33 1.76 (-37.55049d) Equinox: J2000 by the targetselector and retrieved from the 2MASS databetps://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa554d	Proper Motion Dec: -0.26851000000078784 arcsec/yr Epoch of Position: 2015.5 abase. Proper Motion RA: 10.407 mas/yr Proper Motion Dec: -0.139 mas/yr Epoch of Position: 2015.5 base. 190616&-out.add=.&-source=1/345/gaia2&-c=178.56889388987%20-37.55047454330,eq=ICRS,rs=2&-out.orig= Proper Motion RA: 6.968 mas/yr
Comments. Category= Description Extended= (11) Comments. 2MASS 11: Gaia DR2: Category= Description	Star n=[Exoplanets] :NO 776-TA-REF :: This object was generated 541652-3733017 3460438662009633024 (ht Unidentified n=[Infrared sources, Visible	Equinox: J2000 RA: 11 54 16.5226 (178.5688442d) Dec: -37 33 1.76 (-37.55049d) Equinox: J2000 By the targetselector and retrieved from the 2MASS databetps://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa554d e sources] RA: 09 36 5.1326 (144.0213858d) Dec: -21 39 30.45 (-21.65846d)	Proper Motion Dec: -0.26851000000078784 arcsec/yr Epoch of Position: 2015.5 Abase. Proper Motion RA: 10.407 mas/yr Proper Motion Dec: -0.139 mas/yr Epoch of Position: 2015.5 Abase. Proper Motion Position: 2015.5 Abase. Proper Motion RA: 6.968 mas/yr Proper Motion RA: 6.968 mas/yr Proper Motion Dec: -10.007 mas/yr
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Comments. Category= Description Extended= (11) Comments. 2MASS 11: Gaia DR2: Category= Description (12) Comments. 2MASS 09:	:Star n=[Exoplanets] :NO 776-TA-REF :: This object was generated 541652-3733017 3460438662009633024 (ht-Unidentified n=[Infrared sources, Visibility 562-TA-REF :: This object was generated 360513-2139304	Equinox: J2000 RA: 11 54 16.5226 (178.5688442d) Dec: -37 33 1.76 (-37.55049d) Equinox: J2000 By the targetselector and retrieved from the 2MASS databetps://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa554d e sources] RA: 09 36 5.1326 (144.0213858d) Dec: -21 39 30.45 (-21.65846d)	Proper Motion Dec: -0.26851000000078784 arcsec/yr Epoch of Position: 2015.5 Abase. Proper Motion RA: 10.407 mas/yr Proper Motion Dec: -0.139 mas/yr Epoch of Position: 2015.5 Abase. Proper Motion RA: 6.968 mas/yr Proper Motion RA: 6.968 mas/yr Proper Motion Dec: -10.007 mas/yr Epoch of Position: 2015.5
Comments. Category= Description Extended= (11) Comments. 2MASS 11: Gaia DR2. Category= Description (12) Comments. 2MASS 09. Jmag = 15	:Star n=[Exoplanets] :NO 776-TA-REF :: This object was generated 541652-3733017 3460438662009633024 (ht-Unidentified n=[Infrared sources, Visibility 562-TA-REF :: This object was generated 360513-2139304	Equinox: J2000 By the targetselector and retrieved from the SIMBAD data RA: 11 54 16.5226 (178.5688442d) Dec: -37 33 1.76 (-37.55049d) Equinox: J2000 By the targetselector and retrieved from the 2MASS databets://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa554d e sources] RA: 09 36 5.1326 (144.0213858d) Dec: -21 39 30.45 (-21.65846d) Equinox: J2000 by the targetselector and retrieved from the 2MASS databets	Proper Motion Dec: -0.26851000000078784 arcsec/yr Epoch of Position: 2015.5 Abase. Proper Motion RA: 10.407 mas/yr Proper Motion Dec: -0.139 mas/yr Epoch of Position: 2015.5 Abase. Proper Motion RA: 6.968 mas/yr Proper Motion RA: 6.968 mas/yr Proper Motion Dec: -10.007 mas/yr Epoch of Position: 2015.5
Comments. Category= Description Extended= (11) Comments. 2MASS 11: Gaia DR2: Category= Description (12) Comments. 2MASS 09. Jmag = 15 49.5" away Gaia DR2:	Star n=[Exoplanets] NO 776-TA-REF This object was generated 541652-3733017 3460438662009633024 (ht-Unidentified on=[Infrared sources, Visible 562-TA-REF This object was generated 360513-2139304 5.753 y from target within visit sp 5664811247788711040	Equinox: J2000 RA: 11 54 16.5226 (178.5688442d) Dec: -37 33 1.76 (-37.55049d) Equinox: J2000 By the targetselector and retrieved from the 2MASS databetps://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa554d Le sources RA: 09 36 5.1326 (144.0213858d) Dec: -21 39 30.45 (-21.65846d) Equinox: J2000 By the targetselector and retrieved from the 2MASS databeth from the 2MASS databeth from the 2MASS databeth from the 2MASS databeth fitting distance of 60"	Proper Motion Dec: -0.26851000000078784 arcsec/yr Epoch of Position: 2015.5 abase. Proper Motion RA: 10.407 mas/yr Proper Motion Dec: -0.139 mas/yr Epoch of Position: 2015.5 base. 190616&-out.add=.&-source=I/345/gaia2&-c=178.56889388987%20-37.55047454330,eq=ICRS,rs=2&-out.orig= Proper Motion RA: 6.968 mas/yr Proper Motion Dec: -10.007 mas/yr Epoch of Position: 2015.5 base.
Comments. Category= Description Extended= (11) Comments. 2MASS 11: Gaia DR2 Category= Description (12) Comments. 2MASS 09: Jmag = 15 49.5" away Gaia DR2 category=	Star n=[Exoplanets] NO 776-TA-REF This object was generated 541652-3733017 3460438662009633024 (ht-Unidentified on=[Infrared sources, Visible 562-TA-REF This object was generated 360513-2139304 5.753 y from target within visit sp 5664811247788711040	Equinox: J2000 By the targetselector and retrieved from the SIMBAD data RA: 11 54 16.5226 (178.5688442d) Dec: -37 33 1.76 (-37.55049d) Equinox: J2000 By the targetselector and retrieved from the 2MASS databetps://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa554d Se sources] RA: 09 36 5.1326 (144.0213858d) Dec: -21 39 30.45 (-21.65846d) Equinox: J2000 By the targetselector and retrieved from the 2MASS databeth targetselector and retrieved from	Proper Motion Dec: -0.26851000000078784 arcsec/yr Epoch of Position: 2015.5 Abase. Proper Motion RA: 10.407 mas/yr Proper Motion Dec: -0.139 mas/yr Epoch of Position: 2015.5 Abase. Proper Motion RA: 6.968 mas/yr Proper Motion RA: 6.968 mas/yr Proper Motion Dec: -10.007 mas/yr Epoch of Position: 2015.5

Proposal 2512 - Targets - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Framework

(13) 836-TA-REF RA: 15 00 18.7452 (225.0781050d)

Dec: -24 27 2.23 (-24.45062d) Proper Motion Dec: 1.776 mas/yr

Equinox: J2000 Epoch of Position: 2015.5

2MASS 15001874-2427022

Jmag 16.2

15.2" away from target within visit splitting distance of 55"

Gaia DR2 6230733932759651840

https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa58b1e7280&-out.add=.&-source=I/345/gaia2&-c=225.07811546298%20-24.45065146946,eq=ICRS,rs=2&-out.orig=0

Category=Unidentified

Description=[Infrared sources, Visible sources]

(14) 134-TA-REF RA: 23 20 3.6866 (350.0153608d)

RA: 23 20 3.6866 (350.0153608d) Proper Motion RA: 14.353 mas/yr Dec: -60 04 16.35 (-60.07121d) Proper Motion Dec: -8.695 mas/yr

Equinox: J2000 Epoch of Position: 2015.5

Comments: This object was generated by the targetselector and retrieved from the 2MASS database.

Comments: This object was generated by the targetselector and retrieved from the 2MASS database.

2MASS 23200368-6004163

Jmag = 15.023

36" away from target within visit splitting distance of 40"

Gaia DR2 6490461089163448960

https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fa58ea97940&-out.add=.&-source=I/345/gaia2&-c=350.01551870967%20-60.07123789579, eq=ICRS, rs=2&-out.orig=out.add=.&-source=I/345/gaia2&-c=350.01551870967%20-60.07123789579, eq=ICRS, rs=2&-out.add=.&-source=I/345/gaia2&-c=350.01551879, eq=ICRS, rs=2&-out.add=.&-source=I/345/gaia2&-out.add=.&-

Category=Unidentified

Description=[Infrared sources, Visible sources]

(16) TOI-402 RA: 02 27 28.2923 (36.8678846d) Proper Motion RA: -0.00553780008952981 sec of

Dec: -27 38 10.02 (-27.63612d)

Equinox: J2000 Proper Motion Dec: -0.21161399999982677 arcsec/yr

Epoch of Position: 2015.5

Proper Motion RA: -16.793 mas/yr

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Category=Star

Description=[Exoplanet Systems, Exoplanets]

Extended=NO

(17) 402-TA-REF RA: 02 27 26.9044 (36.8621017d) Proper Motion RA: -1.152 mas/yr

Dec: -27 38 19.57 (-27.63877d) Proper Motion Dec: -4.095 mas/yr

Equinox: J2000 Epoch of Position: 2015.5

Comments: Gaia DR2 5068777809825770112

y Mag = 18.19 (Pan-STARRS) 23.4" away from target

DR2 - https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fabc350224d&-out.add=.&-source=I/345/gaia2&-c=036.86209623802%20-27.63878617175,eq=ICRS,rs=2&-out.orig=o
Pna-STARRS - https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fabc350224d&-out.add=.&-source=II/349/ps1&-c=036.862098320%20-27.638782980,eq=J2000,rs=2&-out.orig=o

Category=Unidentified

Description=[Infrared sources, Visible sources]

(18) 455-TA-REF RA: 03 01 57.1826 (45.4882608d)

Dec: -16 34 6.09 (-16.56836d)

Equinox: J2000

Comments: Using the Gaia DR2 rb magnitude and the i band for SDSS in the ETC

https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fb3b4764d6c&-out.add=.&-source=I/345/gaia2&-c=045.48826076100%20-16.56835867349,eq=ICRS,rs=2&-out.orig=0

DR2: Gaia DR2 5153093450979433856

Alternate target: 2MASS 03015532-1638189

But this will saturate 4 pixels using the MSATA setting needed to widen the area

https://vizier.u-strasbg.fr/viz-bin/VizieR-5?-ref=VIZ5fb2face0354&-out.add=.&-source=II/246/out&2MASS===03015532-1638189

Category=Unidentified

Description=[Infrared sources]

Proposal 2512 - Targets - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Framework

(19) WISEA-J030148.40-163532.7 RA: 03 01 48.4032 (45.4516800d)

Dec: -16 35 32.75 (-16.59243d)

Equinox: J2000

Comments: This object was generated by the targetselector and retrieved from the NED database.

Description=[Exoplanets] Extended=NO

Proper Motion RA: 5 mas/yr Proper Motion Dec: 476 mas/yr Epoch of Position: 2010.5589

		2 - UDSETVAti Observation 1: TOI		tne Fore	st and the Trees:	Unveiling Si	nali Planet A	tmospheres with		<u>_evel Frame.</u> 2 22:01:13 GMT 202
ţ	Diagnostic Stat		(11)						ruc Oct 1.	2 22.01.13 GIVIT 202.
Š	_	olate: NIRSpec Brigh	t Object Time Series							
ser		rnate name: HIP-153	-							
Observation										
SS	(TOI 260.01 (T	l) (Obs 1)) Warning (Form): Exposure Du	ation exceeds th	e limit of 10000.0 seconds.	Above this limit it is	possible that a High	Gain Antenna move may occ	ur during the exposure	
stic	(Visit 1:1) Warr	ning (Form): Overhea	ds are provisional unt	il the Visit Plant	ner has been run.					
2										
Diagnostics										
Δ		·	m . a	•• .		m 0 10		30. 11		
S		Name	Target Co		70.1)	Targ. Coord. C		Miscella	neous	
jet	(1) T	OI-260		5.5243 (4.77301 7 58.14 (-9.9661		time/yr	RA: -0.00247690947	63926838 sec of		
Targets			Equinox: J:		50)	Proper Motion	Dec: -0.30143500009	96717 arcsec/yr		
⊢ 5			Equilox. J.	2000		Epoch of Positi				
Fixed	Comments: This	object was generated	d by the targetselecto	r and retrieved f	rom the SIMBAD database.					
正	Category=Star Description=[E.	xoplanets]								
	Description=[E. Extended=NO	,								
Acquisition	#	Target	TA Method	Subarray	Filter Rea	dout Pattern Gro	ups/Int Inte	grations/Exp Total Integrations	Total Exposure Time	ETC Wkbk.Calo
S	1	2 260-TA-REF	WATA	SUB32	CLEAR NR	SRAPID 3	1	1	0.08	58621
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Template	Subarray									
윤	SUB2048									
e B										
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Spectral Elements	#	Grating/Filter	Readout Patte	ern Groups/l	Int Integrations/E	xp Exposures/D	th Total Dither	rs Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
Ĕ	1	G395H/F290LI	P NRSRAPID	3	5718	1	1	5718	20747.649	59089
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ts	Dhasa () 0884214	0060 to 0 001524296	55 with period 12 470	018 Dave and ze	ero-phase 2458391.79441 H	ID				
_	Time Series Obs		33 with period 13.470	1016 Days and 20	e10-pilase 2436391./9441 H	JD				
Ĕ	No Parallel									
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Re										
Special Requiremer										
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		2 - Observation 2: TOI		the Foles	st and the riee	5. Onvening	Siliali Pia	met Atmos	phieres with		2 22:01:13 GMT 202
Observation	Diagnostic Stat	tus: Warning									
ž	Observing Tem	plate: NIRSpec Brigh	t Object Time Series								
se	Comments: Alte	ernate name: HIP-153	32								
ö											
S	(TOI 260.01 (T	2) (Obs 2)) Warning (Form): Exposure Dura	tion exceeds the	limit of 10000.0 secon	ds. Above this limi	t it is possible tha	t a High Gain A	ntenna move may occ	ur during the exposure	e.
Diagnostics	(Visit 2:1) Warı	ning (Form): Overhea	ds are provisional until	I the Visit Planne	er has been run.						
	# 1	Name	Target Coo	rdinates		Targ. Coo	rd. Corrections		Miscella	neous	
Targets	(1)	ГОІ-260		5.5243 (4.773017 58.14 (-9.96615		Proper Mo time/yr	tion RA: -0.0024	76909476392683	38 sec of		
ā			Equinox: J2		,	Proper Mo	tion Dec: -0.3014	135000096717 ar	csec/yr		
ך				•		Epoch of I	Position: 2015.5				
Fixed	Comments: This Category=Star Description=[E		d by the targetselector	and retrieved fro	om the SIMBAD databa	ise.					
	Extended=NO	хоритегу ј									
tion	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations	F/Exp Total Integrations	Total Exposure Time	ETC Wkbk.Calc
Acquisition	1	2 260-TA-REF	WATA	SUB32	CLEAR	NRSRAPID	3	1	1	0.08	58621
	Subarray										
Template	SUB2048										
Elements	#	Grating/Filter	Readout Patter	n Groups/I	nt Integration	ns/Exp Exposur	res/Dith Tot	al Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
me	1	G395H/F290LI	P NRSRAPID	3	5718	1	1		5718	20747.649	59089
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ents Spectral	Time Series Ob		65 with period 13.4700	018 Days and ze	ro-phase 2458391.7944	1 HJD					
ts			55 with period 13.4700	018 Days and ze	ro-phase 2458391.7944	1 HJD					
ts	Time Series Ob		55 with period 13.4700	018 Days and ze	ro-phase 2458391.7944	·1 HJD					
ts	Time Series Ob		55 with period 13.4700	018 Days and ze	ro-phase 2458391.7944	-1 HJD					
ts	Time Series Ob		55 with period 13.4700	D18 Days and ze	ro-phase 2458391.7944	I HJD					
ts	Time Series Ob		55 with period 13.4700	018 Days and ze	ro-phase 2458391.7944	I HJD					
	Time Series Ob		55 with period 13.4700	018 Days and ze	ro-phase 2458391.7944	I HJD					

Proposal 2512 - Observation 3 - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Frame. Proposal 2512, Observation 3: TOI-776.01 (T1) Tue Oct 12 22:01:13 GMT 2021 Observation Diagnostic Status: Warning Observing Template: NIRSpec Bright Object Time Series Comments: Alternate name: LP-961-53 Diagnostics (TOI-776.01 (T1) (Obs 3)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure. (Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. Targ. Coord. Corrections Name **Target Coordinates** Miscellaneous Fixed Targets (5) Proper Motion RA: 0.021116414998593572 sec of TOI-776 RA: 11 54 18.7193 (178.5779971d) time/yr Dec: -37 33 12.08 (-37.55336d) Proper Motion Dec: -0.1450590001013552 arcsec/yr Equinox: J2000 Epoch of Position: 2015.5 Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Description=[Exoplanets] Extended=NO Acquisition Total Exposure ETC Wkbk.Calc Target TA Method Filter Readout Pattern Groups/Int Integrations/Exp Total Subarray Integrations ID Time 11 776-TA-REF WATA SUB32 **CLEAR** NRSRAPID 3 1 1 0.08 58621 Template Subarray SUB2048 Spectral Elements Total Exposure ETC Wkbk.Calc Grating/Filter **Readout Pattern** Groups/Int Integrations/Exp Exposures/Dith **Total Dithers Total Integrations** Time G395H/F290LP NRSRAPID 8 3233 1 1 3233 26311.706 57035 Special Requirements Phase 0.9920156815 to 0.994677121 with period 15.655688 Days and zero-phase 2458572.10452 HJD Time Series Observation No Parallel

Diagnostics Observation	Proposal 2512, Obser Diagnostic Status: W Observing Template: Comments: Alternate	vation 4: TOI- varning NIRSpec Bright name: LP-961-5.	776.01 (T2) Object Time Series 3 Form): Exposure Dur	ation exceeds th	e limit of 10000.0 sec				ospheres with	Tue Oct 1	2 22:01:13 GMT 202
	# Name		Target Coo		70071 N		oord. Correctio		Miscell	aneous	
I Targets	(5) TOI-77	6		18.7193 (178.57) 12.08 (-37.5533 2000	<i>'</i>	time/yr Proper I		11164149985935 45059000101355 5			
Fixed	Comments: This object Category=Star Description=[Exoplant Extended=NO		by the targetselector	and retrieved fr	rom the SIMBAD data	_					
Acquisition		776-TA-REF		SUB32	Filter CLEAR	Readout Patter	n Groups/Int 3	Integration 1	ons/Exp Total Integrations	Total Exposure Time 0.08	ETC Wkbk.Calc ID 58621
Template	Subarray SUB2048										
nts	#	Grating/Filter	Readout Patte	rn Groups/I	Int Integrat	ions/Exp Expos	sures/Dith T	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
Spectral Elements	1	G395H/F290LP	NRSRAPID	8	3233	1	1		3233	26311.706	57035
Special Requirements	Phase 0.9920156815 Time Series Observati No Parallel		with period 15.6556	88 Days and zer	o-phase 2458572.104	52 HJD					

Pr	oposal 2512 - Observation		he Forest	and the Tree	<u>es: Unve</u>	iling Sma	<u>II Plan</u>	<u>et Atmosphe</u>	eres with a	<u>a Population-L</u>	<u>_evel Frame</u>
ا د	Proposal 2512, Observation 5: TOI-770	6.02 (T1)								Tue Oct 12	22:01:13 GMT 2021
aţi l	Diagnostic Status: Warning										
\ <u>\{\}</u>	Observing Template: NIRSpec Bright Ob	oject Time Series									
Observation	Comments: Alternate name: LP-961-53										
ō											
cs	(TOI-776.02 (T1) (Obs 5)) Warning (For	m): Exposure Durati	on exceeds the li	mit of 10000.0 seco	nds. Above th	is limit it is poss	sible that a	High Gain Antenna	move may occ	eur during the exposure	
Diagnostics	(Visit 5:1) Warning (Form): Overheads a	re provisional until the	he Visit Planner	has been run.							
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<u>a</u> i.											
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۱,	# Name	Target Coord				g. Coord. Corre			Miscella	neous	
Targets	(5) TOI-776		7193 (178.57799		Prop time		0.0211164	14998593572 sec of			
arg			2.08 (-37.55336d	1)		•	-0.145059	0001013552 arcsec/	vr		
ΙË		Equinox: J200	JU			ch of Position: 2		•	•		
Fixed	Comments: This object was generated by	the targetselector ar	nd retrieved from	n the SIMBAD datab	_						
iÊ	Category=Star Description=[Exoplanets]										
	Description=[Exoplanets] Extended=NO										
Acquisition	# Target T	TA Method Su	ubarray	Filter	Readout Pa	ttern Groups/	/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
Sil	1 11 776-TA-REF W	VATA SI	UB32	CLEAR	NRSRAPID	3		1	1	0.08	58621
Ϊ́Ξ	11770171111	77177	0132	CLL/ IK	THORAIT ID	3		1	1	0.00	30021
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<u>a</u>	SUB2048										
1 5	5622010										
Template											
_		Readout Pattern	Groups/Int	Integratio	ns/Exp Ex	posures/Dith	Total 1	Dithers Tota	l Integrations	Total Exposure	ETC Wkbk.Calc
e										Time	ID
l E	1 G395H/F290LP	NRSRAPID	8	2923	1		1	2923		23788.777	59089
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Spectral Elements											
ts	Phase 0.9789225141 to 0.983977067 wi	ith period 8.243393 I	Davs and zero-nh	nase 2458570.91538	HJD						
		period 0.2 .0090 1	oujo una zero pr	1436 2 1000 7 013 1000	1102						
ΙĔ	No Parallel										
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Special Requiremen											
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Diagnostic State Observing Tem Comments: Alte (TOI-776.02 (T	Observation 6: TOI- us: Warning blate: NIRSpec Bright rnate name: LP-961-5	Object Time Series								Tue Oct 12	22:01:13 GMT 2021
_	olate: NIRSpec Bright	-									
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	rnate name: LP-961-5	53									
											
(TOI-776.02 (T (Visit 6:1) Warn											
(Visit 6:1) Warn	2) (Obs 6)) Warning (I	Form): Exposure Du	ration exceeds the	limit of 10000.0 seco	onds. Above this	limit it is poss	ible that a	High Gain Antenna	move may occ	ur during the exposure	
1 90 1	ing (Form): Overhead	ds are provisional un	til the Visit Planne	er has been run.							
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	lame	Target Co				Coord. Corre			Miscella	neous	
Targets (5)	OI-776		18.7193 (178.577		Proper time/y		0.02111641	14998593572 sec of			
arg			3 12.08 (-37.5533	6d)	•		-0.1450590	0001013552 arcsec/	vr		
<u> </u>		Equinox: J	12000			of Position: 20			,		
Comments: This Category=Star	object was generated	l by the targetselecto	or and retrieved fro	om the SIMBAD data	_						
Category=Star	xonlanets l										
Description=[E Extended=NO	copiumeis										
Acquisition	Target	TA Method	Subarray	Filter	Readout Patt	ern Groups/l	Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	11 776-TA-REF	WATA	SUB32	CLEAR	NRSRAPID	3		1	1	0.08	58621
<u>=</u>	11 //0-1A-KEI	WAIA	30B32	CLEAR	NKSKAI ID	3		1	1	0.08	36021
-											
Subarray SUB2048											
30B2046											
Subarray SUB2048											
	Grating/Filter	Readout Patt	ern Groups/Iı	nt Integratio	ons/Exp Exp	osures/Dith	Total I	Dithers Tota	Integrations	Total Exposure	ETC Wkbk.Calc
			.							Time	ID
<u>E</u> 1	G395H/F290LP	NRSRAPID	8	2923	1		1	2923		23788.777	59089
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Spectral Elements											
	5141 to 0.983977067	with period \$ 2/33	93 Days and zaro	nhase 2458570 01539	S HID						
		with period 6.2433	23 Days and Zero-	phase 2430370.71330	, 11312						
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				g the Fores	st and the Tre	<u>es: Unveili</u>	ng Small	Planet Atm	ospheres with		
Observation	_	2, Observation 7: TOI	-562.01 (T1)							Tue Oct 12	2 22:01:13 GMT 2021
ati	_	atus: Warning									
<u></u>	_	nplate: NIRSpec Brigh	-	S							
ps	Comments: A	ternate name: HIP-471	03								
_											
Diagnostics			-			onds. Above this l	imit it is possib	le that a High Gai	n Antenna move may oc	cur during the exposure	e.
St	(Visit 7:1) Wa	rning (Form): Overhea	ds are provisional u	ntil the Visit Plann	er has been run.						
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<u>ja</u>											
尸	#	Name	Target C	oordinates		Targ. (Coord. Correct	ions	Miscella	aneous	
ts	(6)	TOI-562		6 1.7915 (144.007	4646d)			09949091869526			
ge	,			39 54.23 (-21.6650	*	time/yr					
Targets			Equinox:			Proper	Motion Dec: -0.	99031100007778	15 arcsec/yr		
٦			•			_	of Position: 201	5.5			
Fixed	Comments: To Category=Sta	nis object was generated r	d by the targetselect	or and retrieved fr	om the SIMBAD data	base.					
۱"	Description= Extended=NO	Exoplanets]									
٦	#	Target	TA Method	Subarray	Filter	Readout Patte	rn Groups/In	t Integrat	ions/Exp Total	Total Exposure	ETC Wkbk.Calc
Acquisition									Integrations	Time	ID
l is	1	12 562-TA-REF	WATA	SUB32	CLEAR	NRSRAPID	3	1	1	0.08	58621
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<u>⊢</u>	a .										
ate	Subarray										
I글	SUB2048										
Template											
-	#	Grating/Filter	Readout Pat	tern Groups/I	nt Integrati	ons/Exp Expo	sures/Dith	Total Dithers	Total Integrations		ETC Wkbk.Calc
Spectral Elements	i	G205H/F200H	NDCD A DID	2	4401				4401	Time	ID
e I	1	G395H/F290LF	P NRSRAPID	3	4401	1		1	4401	15968.94	59089
□											
<u>a</u>											
<u>5</u>											
Sp											
ts	Phase 0.9673	517873 to 0.977951856	54 with period 3.930	0792 Days and zer	o-phase 2458517.498	6 HJD					
_	Time Series C No Parallel		•	-	-						
E H	140 I alaliel										
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Special Requiremer											
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Proposal 2512 - Observation 8 - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Frame. Proposal 2512, Observation 8: TOI-836.01 (T1) Tue Oct 12 22:01:13 GMT 2021 Observation Diagnostic Status: Warning Observing Template: NIRSpec Bright Object Time Series Comments: Alternate name: HIP-73427 Diagnostics (TOI-836.01 (T1) (Obs 8)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure. (Visit 8:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. Targ. Coord. Corrections Name **Target Coordinates** Miscellaneous Fixed Targets (7) TOI-836 RA: 15 00 19.1712 (225.0798800d) Proper Motion RA: -0.014663418930896694 sec of time/yr Dec: -24 27 15.11 (-24.45420d) Proper Motion Dec: -0.02703999986300245 arcsec/yr Equinox: J2000 Epoch of Position: 2015.5 Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Description=[Exoplanets] Extended=NO Acquisition Total Exposure ETC Wkbk.Calc Target TA Method Filter Readout Pattern Groups/Int Integrations/Exp Total Subarray Integrations ID Time 13 836-TA-REF WATA SUB32 **CLEAR** NRSRAPID 3 1 1 0.08 58621 **Template** Subarray SUB2048 Spectral Elements Total Exposure ETC Wkbk.Calc Grating/Filter **Readout Pattern** Groups/Int Integrations/Exp Exposures/Dith **Total Dithers Total Integrations** Time G395H/F290LP NRSRAPID 3 6755 1 1 6755 24510.382 59089 Special Requirements Phase 0.9793458992 to 0.9841942796 with period 8.593935 Days and zero-phase 2458599.26396 HJD Time Series Observation No Parallel

			ation 9 - See	ing the Fore	est and the Tr	<u>ees: Unveilin</u>	<u>g Small Pla</u>	anet Atmosph	eres with a		
<u>o</u>	_	12, Observation 9:	TOI-836.02 (T1)							Tue Oct 12	2 22:01:13 GMT 2021
/ati	_	Status: Warning									
ē	_	emplate: NIRSpec E Alternate name: HIP	right Object Time Ser	nes							
Observation	Comments:	Auernaie name: HIP	-/342/								
cs	(TOI-836.02	(T1) (Obs 9)) Warn	ing (Form): Exposure	Duration exceeds t	he limit of 10000.0 se	conds. Above this lir	nit it is possible th	at a High Gain Antenn	a move may occ	eur during the exposure	e.
Diagnostics	(Visit 9:1) V	Varning (Form): Ove	rheads are provisional	until the Visit Plan	nner has been run.						
gnc											
)ia											
	#	Name	Target	Coordinates		Targ. Co	ord. Corrections		Miscella	neous	
ts	(7)	TOI-836		00 19.1712 (225.0	798800d)			663418930896694 sec	of		
Targets			Dec: -2	4 27 15.11 (-24.454	420d)	time/yr					
Tal			Equino	x: J2000		=		039999986300245 arcs	sec/yr		
Fixed	Commontar	This object was sone	rated by the targetsele		from the CIMBAD dat	_	Position: 2015.5				
Ě	Category=S	tar	raiea by the targetsete	cior una reirievea	from the SIMBAD aat	avase.					
	Description: Extended=N	=[Exoplanets] !O									
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Patteri	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
isit	1	13 836-TA-F	REF WATA	SUB32	CLEAR	NRSRAPID	3	1	1	0.08	58621
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ıte	Subarray										
Template	SUB2048										
em											
Elements	#	Grating/F		^		tions/Exp Exposi	res/Dith Tot		al Integrations	Total Exposure Time	ETC Wkbk.Calc ID
e E	1	G395H/F2	90LP NRSRAPII) 3	5259	1	1	525	9	19082.176	59089
Ĭ											
ral											
e Sct											
Spectral											
ts	Phase 0.961	6857234 to 0.97260	14717 with period 3.8	317115 Days and ze	ero-phase 2458599.49	23 HJD					
		Observation	1								
em	TNO Farailei										
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Special Requiremen											
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	posal 2512 - Observation 10 - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Fram
Observation	Proposal 2512, Observation 10: TOI-836.02 (T2) Tue Oct 12 22:01:13 GMT 2021
ati	Diagnostic Status: Warning
≥	Observing Template: NIRSpec Bright Object Time Series
ps	Comments: Alternate name: HIP-73427
-	
Diagnostics	(TOI-836.02 (T2) (Obs 10)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.
St	(Visit 10:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.
Ιğ	
ja j	
屵	# Name Target Coordinates Targ. Coord. Corrections Miscellaneous
ts	(7) TOI-836 RA: 15 00 19.1712 (225.0798800d) Proper Motion RA: -0.014663418930896694 sec of
Targets	Dec: -24 27 15.11 (-24.45420d) time/yr
ā	Equinox: J2000 Proper Motion Dec: -0.027039999986300245 arcsec/yr
٥	Epoch of Position: 2015.5
Fixed	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=Star
╽╙	Description=[Exoplanets] Extended=NO
ء	# Target TA Method Subarray Filter Readout Pattern Groups/Int Integrations/Exp Total Total Exposure ETC Wkbk.Calc
Acquisition	Integrations Time ID
isi	1 13 836-TA-REF WATA SUB32 CLEAR NRSRAPID 3 1 1 0.08 58621
5	
ate	Subarray
[[SUB2048
Template	
_	# Grating/Filter Readout Pattern Groups/Int Integrations/Exp Exposures/Dith Total Dithers Total Integrations Total Exposure ETC Wkbk.Calc
Spectral Elements	Time ID
Ě	1 G395H/F290LP NRSRAPID 3 5259 1 1 5259 19082.176 59089
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ts	Phase 0.9616857234 to 0.9726014717 with period 3.817115 Days and zero-phase 2458599.4923 HJD
_	Time Series Observation
֝׆֟ <u>ั</u>	No Parallel
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Special Requiremer	
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Diagnostics Observation	Proposal 251: Diagnostic St Observing Ter Comments: Al	2, Observation 11: TOI atus: Warning inplate: NIRSpec Bright ternate name: GJ-4332	-134.01 (T1) Object Time Series (Form): Exposure Dura	tion exceeds the	limit of 10000.0 seco					Tue Oct 1	2 22:01:13 GMT 202
Targets Dia	# (8)	Name TOI-134		3620 (350.02859 6.63 (-60.06573		Proper M time/yr		ons 142746431609534 127781000014692	83 sec of	ellaneous	
Fixed T	Comments: The Category=State Description=[Extended=NO	Exoplanets]	-		n the SIMBAD databo		f Position: 2015	5.5			
Acquisition	1	Target 14 134-TA-REF		ubarray UB32	Filter CLEAR	Readout Patter NRSRAPID	Groups/Int	Integration	ons/Exp Total Integratio	Total Exposure Time 0.08	ETC Wkbk.Calc ID 58621
Template	Subarray SUB2048										
ents	#	Grating/Filter	Readout Pattern	Groups/Int	Integration	ns/Exp Expos	ures/Dith	Total Dithers	Total Integration	ns Total Exposure Time	ETC Wkbk.Calc ID
Spectral Elements	1	G395H/F290LP	NRSRAPID	5	2801	1		1	2801	15216.376	59089
_	Phase 0.91140 Time Series O No Parallel	19822 to 0.9411328606 bservation	5 with period 1.401461	Days and zero-	phase 2458339.5478	HJD					

<u>Pro</u>	posal 2512 - Observation 12 - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Fram
<u>ا</u> و	Proposal 2512, Observation 12: TOI-134.01 (T2) Tue Oct 12 22:01:13 GMT 2021
aţi.	Diagnostic Status: Warning
<u>ک</u>	Observing Template: NIRSpec Bright Object Time Series
Observation	Comments: Alternate name: GJ-4332
ō	
cs	(TOI-134.01 (T2) (Obs 12)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.
Diagnostics	(Visit 12:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.
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<u>ja</u> č	
۱,,	# Name Target Coordinates Targ. Coord. Corrections Miscellaneous
Targets	(8) TOI-134 RA: 23 20 6.8620 (350.0285917d) Proper Motion RA: -0.04274643160953483 sec of time/yr
arg I	Dec00 05 50.05 (-00.005/50)
ΙË	Equinox: J2000 Froper Monton Dec: -0.127/8100001409284 arcsec/yr Epoch of Position: 2015.5
Fixed	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
一定	Category=Star Description=[Fxoplanets]
	Description=[Exoplanets] Extended=NO
Acquisition	# Target TA Method Subarray Filter Readout Pattern Groups/Int Integrations/Exp Total Total Exposure ETC Wkbk.Calc Integrations Time ID
Siti	1 14 134-TA-REF WATA SUB32 CLEAR NRSRAPID 3 1 1 0.08 58621
ΙΞ̈́	1 1 15 11 KEK WITH BOBSE CELLIK MINDUILD S 1 1 1 0.00 50021
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_	Subarray
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Template	
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ts	# Grating/Filter Readout Pattern Groups/Int Integrations/Exp Exposures/Dith Total Dithers Total Integrations Total Exposure ETC Wkbk.Calc
Spectral Elements	Time ID
l E	1 G395H/F290LP NRSRAPID 5 2801 1 1 2801 15216.376 59089
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ts	Phase 0.9114019822 to 0.9411328606 with period 1.401461 Days and zero-phase 2458339.5478 HJD
	Time Series Observation No Parallel
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Special Requiremen	
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	oiagnostic Sta	, Observation 13: TO itus: Warning	I-134.01 (T3)							Tue Oct 1	2 22:01:13 GMT 202
	_	_									
O CO	bserving Ten										
San		nplate: NIRSpec Bright	-								
<u> </u>	Comments: Alt	ernate name: GJ-4332									
_		_	_			seconds. Above t	his limit it is pos	sible that a High C	Gain Antenna move may o	occur during the exposu	re.
S (V	Visit 13:1) W	arning (Form): Overhea	ads are provisional u	intil the Visit Plan	nner has been run.						
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<u>ag</u>											
ַ ב											
#		Name	Target Co	oordinates		Tar	g. Coord. Corre	ctions	Miscell	aneous	
largets 8)	3)	TOI-134	RA: 23 20	6.8620 (350.028	5917d)			0.0427464316095	3483 sec of		
စ်			Dec: -60 0	3 56.63 (-60.065	73d)	time	•	0.10000111			
<u> </u>			Equinox: J	J2000				0.1277810000146	9284 arcsec/yr		
<u>۾</u> ا	, -			,	a grante :	_	ch of Position: 20)15.5			
$\simeq 1c$	ategory-Star	is object was generated	t by the targetselecto	or and retrieved f	rom the SIMBAD de	atabase.					
	Description=[1 Extended=NO	Exoplanets]									
			TA M-41-3	Ch	E:14	D d 4 D-	44 G	I4 I4	-4:/E T-4-1	T-4-1 F	ETC William Cala
Acquisition		Target	TA Method	Subarray	Filter	Readout Pa	ttern Groups/l	int integra	ations/Exp Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
<u>5</u>		14 134-TA-REF	WATA	SUB32	CLEAR	NRSRAPID	3	1	1	0.08	58621
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	L										
<u>a</u>	ubarray UB2048										
힏	UB2046										
lemplate											
_		Grating/Filter	Readout Patt	ern Groups/	Int Integr	ations/Exp Ex	posures/Dith	Total Dithers	Total Integrations	s Total Exposure	ETC Wkbk.Calc
Spectral Elements										Time	ID
וַ בַּ		G395H/F290LF	NRSRAPID	5	2801	1		1	2801	15216.376	59089
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t Ph	hase 0.91140	19822 to 0.941132860	6 with period 1.401	461 Days and zer	ro-phase 2458339.5	478 HJD					
	ime Series Ol Io Parallel	oservation									
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Special Requiremer											

Proposal 2512 - Observation 14 - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Fram. Proposal 2512, Observation 14: TOI-455.01 (T1) Tue Oct 12 22:01:13 GMT 2021 Observation Diagnostic Status: Warning Observing Template: NIRSpec Bright Object Time Series Comments: Alternate name: GJ-3193-A / LTT 1445 A Triple star system Needs to be conducted after NIRCam Pre imaging of WISEA **Diagnostics** (TOI-455.01 (T1) (Obs 14)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure. (Visit 14:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. Targ. Coord. Corrections Name **Target Coordinates** Miscellaneous Fixed Targets (9) TOI-455 RA: 03 01 50.9947 (45.4624779d) Proper Motion RA: -0.025682752912145126 sec of time/yr Dec: -16 35 40.18 (-16.59449d) Proper Motion Dec: -0.26851000000078784 arcsec/yr Equinox: J2000 Epoch of Position: 2015.5 Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Description=[Exoplanets] Extended=NO Acquisition ETC Wkbk.Calc Target TA Method Filter Readout Pattern Groups/Int Integrations/Exp Total Total Exposure Subarray Integrations ID Time 19 WISEA-WATA SUB2048 **CLEAR** NRSRAPID 3 1 1 3.628 58621 J030148.40-163532.7 **Template** Subarray SUB2048 Spectral Elements ETC Wkbk.Calc Grating/Filter **Readout Pattern** Groups/Int Integrations/Exp Exposures/Dith **Total Dithers Total Integrations** Total Exposure Time G395H/F290LP NRSRAPID 3 4468 1 1 4468 16212.049 57035 Special Requirements Phase 0.9758186228 to 0.9835939853 with period 5.358807 Days and zero-phase 2458422.9263 HJD Time Series Observation No Parallel 14 After 20 by 60 Days to 425 Days

D.,		10 Observatio	45 . Cani		ot a a al thoa To		C	Diament Atm	مالة: بر محمد ما محمد	Domislation	Lavel Fram
Observation	Proposal 2512 Diagnostic St Observing Ter Comments: Al	12 - Observation 2, Observation 15: TOI atus: Warning inplate: NIRSpec Bright ternate name: L98-59c	-175.01 (T1) Object Time Series	;						Tue Oct 12	2 22:01:13 GMT 2021
Diagnostics	(TOI-175.01 (Visit 15:1) W	Γ1) (Obs 15)) Warning (arning (Form): Overhead	=			conds. Above this li	mit it is possib	le that a High Gain	n Antenna move may oc	cur during the exposur	e.
	#	Name		oordinates			ord. Correctio		Miscella	neous	
	(3)	TOI-175		3 7.6215 (124.53175	*		otion RA: 94.7	•			
ets				18 46.80 (-68.31300	d)	•	otion Dec: -340	0.470 mas/yr			
l g)		Equinox:	J2000			0.0941385" Position: 2015	· E			
Fixed Targets	Category=Sta Description=[Extended=NO	Exoplanet Systems, M d	CC CC warfs]		Fil.	P. L. (P.)	0	•	W W (1)	W. 117	Pro Wall of
₽	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integratio	ns/Exp Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
Acquisition	1	4 175-TA-REF	WATA	SUB32	CLEAR	NRSRAPID	3	1	1	0.08	58621
fe	Subarray										
Template	SUB2048										
ints	#	Grating/Filter	Readout Patr	tern Groups/Int	Integrati	ons/Exp Exposu	res/Dith	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
Spectral Elements	1	G395H/F290LP	NRSRAPID	5	2761	1		1	2761	14999.077	57035
Spe	•										

<u>Pro</u>	oposal 2512 - Observation 15 - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Fram
Special Requirements	Phase 0.9666950086 to 0.9779848362 with period 3.690638 Days and zero-phase 2458366.7755 HJD Time Series Observation No Parallel

Dro	nnosal 2512 .	. Ohservatio	n 16 - Saair	a the Fores	t and the Tr	ees: Unveilin	Ilem2 n	Planet Atm	ospheres with	a Population	l evel Fram		
Observation	Proposal 2512, Ob Diagnostic Status: Observing Template Comments: Alterna	servation 16: TOI- Warning e: NIRSpec Bright (te name: L98-59c	175.01 (T2) Object Time Series							Tue Oct 12	22:01:13 GMT 2021		
Diagnostics	(Visit 16:1) Warnin	g (Form): Overhead	ls are provisional un	til the Visit Planne					Antenna move may oc		e.		
	# Nam (3) TOI-		Target Coo	ordinates 7.6215 (124.531756	53d)		rd. Correction tion RA: 94.76		Miscella	neous			
၂ မ	(3)	173		3 46.80 (-68.31300d		•	tion Dec: -340	•					
Targets	Equinox: J2000				,	Parallax: 0.0941385"							
٦̈́						Epoch of P	osition: 2015.5	5					
Fixed	J 7.933 [0.027] C 2 H 7.359 [0.049] C 2	ates, proper motion 003yCat.22460C 2003yCat.22460C 2003yCat.22460C lanet Systems, M dw		GAIA DR2									
<u>io</u>	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integration	ns/Exp Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID		
Acquisition	1	4 175-TA-REF	WATA	SUB32	CLEAR	NRSRAPID	3	1	1	0.08	58621		
te	Subarray												
Template	SUB2048												
Spectral Elements	#	Grating/Filter	Readout Patte	rn Groups/Int	Integratio	ons/Exp Exposur	es/Dith T	otal Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID		
me	1	G395H/F290LP	NRSRAPID	5	2761	1	1		2761	14999.077	57035		
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ect													
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<u>Pro</u>	oposal 2512 - Observation 16 - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Fram
Special Requirements	

	posal 2512 - Observation 17 - Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Fram.
Observation	Proposal 2512, Observation 17: TOI-402.01 (T1) Tue Oct 12 22:01:13 GMT 202
ati	Diagnostic Status: Warning
e Z	Observing Template: NIRSpec Bright Object Time Series
ps	Comments: Alternate name: HD-15337
-	
Diagnostics	(TOI-402.01 (T1) (Obs 17)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.
ost	(Visit 17:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.
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jä	
	# Name Target Coordinates Targ. Coord. Corrections Miscellaneous
ts	(16) TOI-402 RA: 02 27 28.2923 (36.8678846d) Proper Motion RA: -0.00553780008952981 sec of
ge	Dec: -27 38 10.02 (-27.63612d) time/yr
Гaг	Equinox: J2000 Proper Motion Dec: -0.21161399999982677 arcsec/yr
Fixed Targets	Epoch of Position: 2015.5
ı×.	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=Star
"	Description=[Exoplanet Systems, Exoplanets] Extended=NO
Acquisition	# Target TA Method Subarray Filter Readout Pattern Groups/Int Integrations/Exp Total Total Exposure ETC Wkbk.Calc Integrations Time ID
isit	1 17 402-TA-REF WATA SUB2048 CLEAR NRSRAPID 3 1 1 3.628 58621
drij	
Ac Ac	
ē.	Subarray
	SUB2048
Template	
Ľ	
Spectral Elements	# Grating/Filter Readout Pattern Groups/Int Integrations/Exp Exposures/Dith Total Dithers Total Integrations Total Exposure ETC Wkbk.Calc Time ID
шe	1 G395H/F290LP NRSRAPID 4 5500 1 1 5500 24917.64 57035
Ĭ	
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g	
ts (Phase 0.9621517408 to 0.9709129119 with period 4.755833 Days and zero-phase 2458410.962 HJD
_	Time Series Observation
Ĭ	No Parallel
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Special Requiremer	
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		<u> 12 - Observati</u>		ng the Fore	est and the Tr	<u>ees: Unv</u>	<u>eiling Sm</u>	<u>all Plai</u>	<u>net Atmosph</u>	neres with		
Observation	-	2, Observation 18: TO	I-402.02 (T1)								Tue Oct 12	2 22:01:13 GMT 2021
ati	_	ntus: Warning										
 ≥	-	nplate: NIRSpec Bright	-									
pse	Comments: Al	ternate name: HD-1533	37									
-												
Diagnostics		Γ1) (Obs 18)) Warning	-			conds. Above	this limit it is pos	ssible that	a High Gain Antenn	na move may oc	cur during the exposur	e.
St	(Visit 18:1) W	arning (Form): Overhe	ads are provisional u	ntil the Visit Plani	ner has been run.							
۱ğ												
Ja ja												
H	#	Name	Target Co	ordinates		Tar	g. Coord. Corre	ections		Miscella	neous	
ts	(16)	TOI-402		28.2923 (36.8678	3846d)				30008952981 sec of			
§	Dec: -27 38 10.02 (-27.63612d)					time	•					
Targets			Equinox: J	2000					99999982677 arcsec	c/yr		
g	G . TI		11 1 1 .	1 10	d CHADAD I		ch of Position: 2	015.5				
Fixed	Category=Sta	is object was generated ·		r ana retrieved fro	om the SIMBAD data	oase.						
"	Description=[Extended=NO	Exoplanet Systems, Exc	oplanets]									
Acquisition	_	Target	TA Method	Subarray	Filter	Readout Pa	ttern Groups/	Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
isi	1	17 402-TA-REF	WATA	SUB2048	CLEAR	NRSRAPID	3		1	1	3.628	58621
l g												
Ĭ												
ate	Subarray											
۱ğ	SUB2048											
Template												
_	#	Grating/Filter	Readout Patte	ern Groups/II	nt Integration	ns/Evn E	xposures/Dith	Total I	Dithers Tota	l Integrations	Total Exposure	ETC Wkbk.Calc
Spectral Elements	"			-		 	xposures/Dim	-			Time	ID
e I	1	G395H/F290LF	NRSRAPID	4	4654	1		1	4654		21084.854	57035
Ĭ												
<u>a</u>												
당												
Sp												
ts	Phase 0.99082	66918 to 0.993247089	7 with period 17.214	18 Days and zero-	phase 2458414.0476	HJD						
_	Time Series O No Parallel		-	•								
em	1 to 1 aranor											
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Cia												
Special Requiremer												
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Observation	Proposal 251 Diagnostic St Observing Te Comments: An	2, Observation 19: TOI atus: Warning mplate: NIRSpec Bright ternate name: HD-1533	Object Time Series 7 (Form): Exposure Durat	ion exceeds the li	and the Trees:				Tue Oct 12	2 22:01:13 GMT 202
Diagnostics	#	Name	Target Coord			Targ. Coord. Corn		Miscella	neous	
Fixed Targets	(16) Comments: Ti	TOI-402 uis object was generated	Dec: -27 38 10 Equinox: J200			time/yr	: -0.005537800089529 :: -0.21161399999982 2015.5			
	Category=Sta	r Exoplanet Systems, Exo	planets]			out Pattern Group	s/Int Integrati	ions/Exp Total	Total Exposure	
Acquisition	1	17 402-TA-REF	WATA SU	JB2048	CLEAR NRSI	RAPID 3	1	Integrations	3.628	ID 58621
Template	Subarray SUB2048									
nts	#	Grating/Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
Spectral Elements	1	G395H/F290LP	NRSRAPID	4	4654	1	1	4654	21084.854	57035
_	Phase 0.99082 Time Series C No Parallel	266918 to 0.9932470897 Observation	7 with period 17.2148 E	Pays and zero-pha	use 2458414.0476 HJD					

Pro	pposal 2512 - Observation	on 20 - Seeing	the Forest and	d the Trees	· Unveiling Sma	ıll Planet Atmo	ospheres wit	h a Population	n-l evel Fram			
	Proposal 2512, Observation 20: 19		tho i diddt and	4 110 11000	. Onvolling Onlo	arra idilot 7 tari	OOPHOIOO WIL		2 22:01:13 GMT 2021			
	Diagnostic Status: Warning											
	Observing Template: NIRCam Imagin	ng										
٦	Comments: This addition is based on	the approved TTRB:										
Observation	The only TA star within the visit splitt (e.g., AllWISE, USNO-A2.0, GCSC2.3 arcsec to 36.71 arcsec (offset of 1 arc would increase flux variations due to enough for our observation, so we nee relative to each other than the TA star	8, VHS) at the ~1 arcsec sec). Therefore, if we bliclipping of the PSF winged to obtain better prope.	level or more If the pro ndly offset from a TA o s by the aperture. We o	oper motions of the n the TA target to cannot assume that	is TA target are off by 2 si LTT 1445 A, the science to t initial pointing accuracy	gma, then the separati arget could be outside after guide star acqui.	on between LTT 144 the 1.6 x 1.6 arcsec sition and before NI	15A b and the TA source aperture. Poor centerio RSpec target acquisitio	e decreases from 37.71 ng in the aperture n will be accurate			
	In order to ensure accurate pointing f obtain precise proper motions on a J- seconds of slew time, this would lead can be seen in JWST ETC Workbook	=18.3 target, we require : to an additional 37 minu	472.42 seconds of total	exposure time (4)	INTRASCA SMALL dither	s) to achieve S/N=370	0/622 in F115W/F44	4W. respectively. With	an additional 1800			
Diagnostics	(Visit 20:1) Warning (Form): Overhea	ads are provisional until (he Visit Planner has bo	een run.								
<u>"</u>	# Name	Target Coord	inates		Targ. Coord. Correc	tions	Miscel	laneous				
Targets	(19) WISEA-J030148.40-1	63532.7 RA: 03 01 48.4	4032 (45.4516800d)		Proper Motion RA: 5	mas/yr						
arg		Dec: -16 35 32	.75 (-16.59243d)		Proper Motion Dec: 476 mas/yr							
ΙË		Equinox: J200	0		Epoch of Position: 20	10.5589						
Fixed	Comments: This object was generated Category=Star Description=[Exoplanets] Extended=NO	l by the targetselector an	d retrieved from the N	ED database.								
ţe	Module				Subarray							
目	В				FULLP							
Template												
rs.	# P	rimary Dither Type	Primary Di	thers	Subpixel Dither Ty	pe Dithe	er Size	Subpixel Po	ositions			
Dithers	1 n	NTRASCA	4		STANDARD	8" (S)	MALL)	1				
Spectral Elements	# Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID			
١Ř	1 F115W	F444W	RAPID	10	1	4	4	429.471				
Ele												
<u>a</u>												
<u>%</u>												
Spl												
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<u>Pr</u>	opo	<u>sal 25</u>	<u> 512 - </u>	<u>Obser</u>	vation 2	<u> 20 - Se</u>	<u>eing th</u> :	<u>e Fores</u>	<u>t and the</u>	<u> I rees:</u>	Unveiling	<u>Small</u>	<u> Planet</u>	<u>Atmosp</u>	<u>heres w</u>	<u>vith a F</u>	<u>'opulation</u>	<u>วท-Level</u>	⊦ram
Requirements		After 20 I	by 60 Da	ays to 425 I	Days														
Special																			