



14682 - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Cycle: 24, Proposal Category: GO
(Availability Mode: AVAILABLE)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. Bjorn Benneke (PI) (CSA Member) (Contact)	Universite de Montreal	bbenneke@astro.umontreal.ca
Dr. Heather A. Knutson (CoI)	California Institute of Technology	hknutson@caltech.edu
Dr. Ian Crossfield (CoI)	Massachusetts Institute of Technology	iancross@mit.edu
Prof. Andrew W. Howard (CoI)	California Institute of Technology	ahoward@caltech.edu
Mr. Peter McCullough (CoI)	Space Telescope Science Institute	pmcc@stsci.edu
Dr. Thomas P. Greene (CoI)	NASA Ames Research Center	tom.greene@nasa.gov
Dr. Leslie Rogers (CoI)	University of Chicago	larogers@uchicago.edu
Dr. Andrew Vanderburg (CoI)	University of Texas at Austin	avanderburg@utexas.edu
Dr. Caroline Morley (CoI)	University of Texas at Austin	cmorley@utexas.edu
Dr. Courtney Dressing (CoI)	University of California - Berkeley	dressing@berkeley.edu
Dr. Erik Petigura (CoI)	California Institute of Technology	petigura@caltech.edu
Joshua Lothringer (CoI)	University of Arizona	jlothin@lpl.arizona.edu
Dr. Jonathan Fraine (CoI)		jfraine@spacescience.org
Dr. Travis Stuart Barman (CoI)	University of Arizona	barman@lpl.arizona.edu

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>
01	(2) K2-18	WFC3/IR	5	06-Dec-2018 15:01:00.0	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>
02	(2) K2-18	WFC3/IR	5	06-Dec-2018 15:01:26.0	yes
03	(2) K2-18	WFC3/IR	5	06-Dec-2018 15:01:52.0	yes
04	(2) K2-18	WFC3/IR	5	06-Dec-2018 15:02:19.0	yes
05	(2) K2-18	WFC3/IR	5	06-Dec-2018 15:02:41.0	yes
06	(2) K2-18	WFC3/IR	5	06-Dec-2018 15:03:08.0	yes
07	(1) K2-3	WFC3/IR	6	06-Dec-2018 15:03:46.0	yes
08	(1) K2-3	WFC3/IR	6	06-Dec-2018 15:04:20.0	yes
09	(1) K2-3	WFC3/IR	6	06-Dec-2018 15:04:56.0	yes
10	(1) K2-3	WFC3/IR	6	06-Dec-2018 15:05:34.0	yes
11	(1) K2-3	WFC3/IR	6	06-Dec-2018 15:06:10.0	yes
12	(1) K2-3	WFC3/IR	6	06-Dec-2018 15:06:42.0	yes
13	(1) K2-3	WFC3/IR	6	06-Dec-2018 15:07:18.0	yes
14	(1) K2-3	WFC3/IR	6	06-Dec-2018 15:07:54.0	yes

78 Total Orbits Used

ABSTRACT

The recent discovery of two transiting super-Earths in the habitable zones of bright, nearby M-dwarfs provides us with the unprecedented opportunity to carry out the first spectroscopic studies of the atmospheres of potentially habitable planets outside our solar system. The planets' equilibrium temperatures of 210-275 K and 225-305 K, respectively, are consistent with the potential presence of liquid water, a condition generally regarded as a necessity for the existence of life as we know it. Here, we propose to obtain HST WFC3 transmission spectroscopy of both planets in order to infer their atmospheric hydrogen fractions, carbon-to-nitrogen ratios (C/N), and to determine their potential habitability. Our proposed observations will cleanly distinguish between cloud-free, H₂-dominated scenarios and high mean molecular mass (e.g. H₂O-dominated) atmospheres. For hydrogen-rich atmospheres we can determine the C/N ratio based on the relative strengths of methane and ammonia absorption, allowing us to distinguish between H₂/He atmospheres accreted from the protoplanetary disk and H₂-rich atmospheres formed through outgassing. The detection of absorption from methane, ammonia, and/or water will make K2-18b and K2-3d prime targets for first-light observations with JWST to search for biosignatures in their atmospheres. Observations in HST Cycle 24 will allow us to determine the atmospheric compositions and potential habitability of these

Proposal 14682 (STScI Edit Number: 6, Created: Thursday, December 6, 2018 at 3:07:59 PM Eastern Standard Time) - Overview
planets prior to JWST Cycle 1 deadline.

OBSERVING DESCRIPTION

Our program observes two transits of HIP116454b using WFC3 G141 (1-1.7 micron) spectroscopy

Proposal 14682 - K2-18 b (01) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:07:59 GMT 2018

Visit	<p>Proposal 14682, K2-18 b (01), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 32.939700 D AND ZERO-PHASE HJD2457264.391819</p> <p><i>Comments: WFC3/G141 transit visit of K2-18b. It is essential for the orbits in each visit to be scheduled in a contiguous block. Six identical visits of K2-18b will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>					
	<p>(K2-18 b (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-18 b (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-18 b (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-18 b (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-18 b (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>					
Diagnosics						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	K2-18	RA: 11 30 14.5090 (172.5604542d)	Proper Motion RA: -89.8 mas/yr	V=13.5+/-0.05	Reference Frame: ICRS
	Alt Name1:	Dec: +07 35 18.21 (7.58839d)	Proper Motion Dec: -136.7 mas/yr	J = 9.76; H = 9.13		
	EPIC201912552B	Equinox: J2000	Epoch of Position: 2000			
	Alt Name2: K2-18D					
	<p><i>Comments:</i></p> <p><i>Category=STAR</i></p> <p><i>Description=[M III-I]</i></p>					

Proposal 14682 - K2-18 b (01) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(2) K2-18	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.9934 TO 0.99543	Sequence 1-2 Non-Int in K2-18 b (01)	0.833445 Secs (0.833 Secs) [==>]	[1]
2	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees, Rounding trip	Sequence 1-2 Non-Int in K2-18 b (01)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[1]
3	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees, Rounding trip	Sequence 3-4 Non-Int in K2-18 b (01)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[2]

Exposures

Proposal 14682 - K2-18 b (01) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

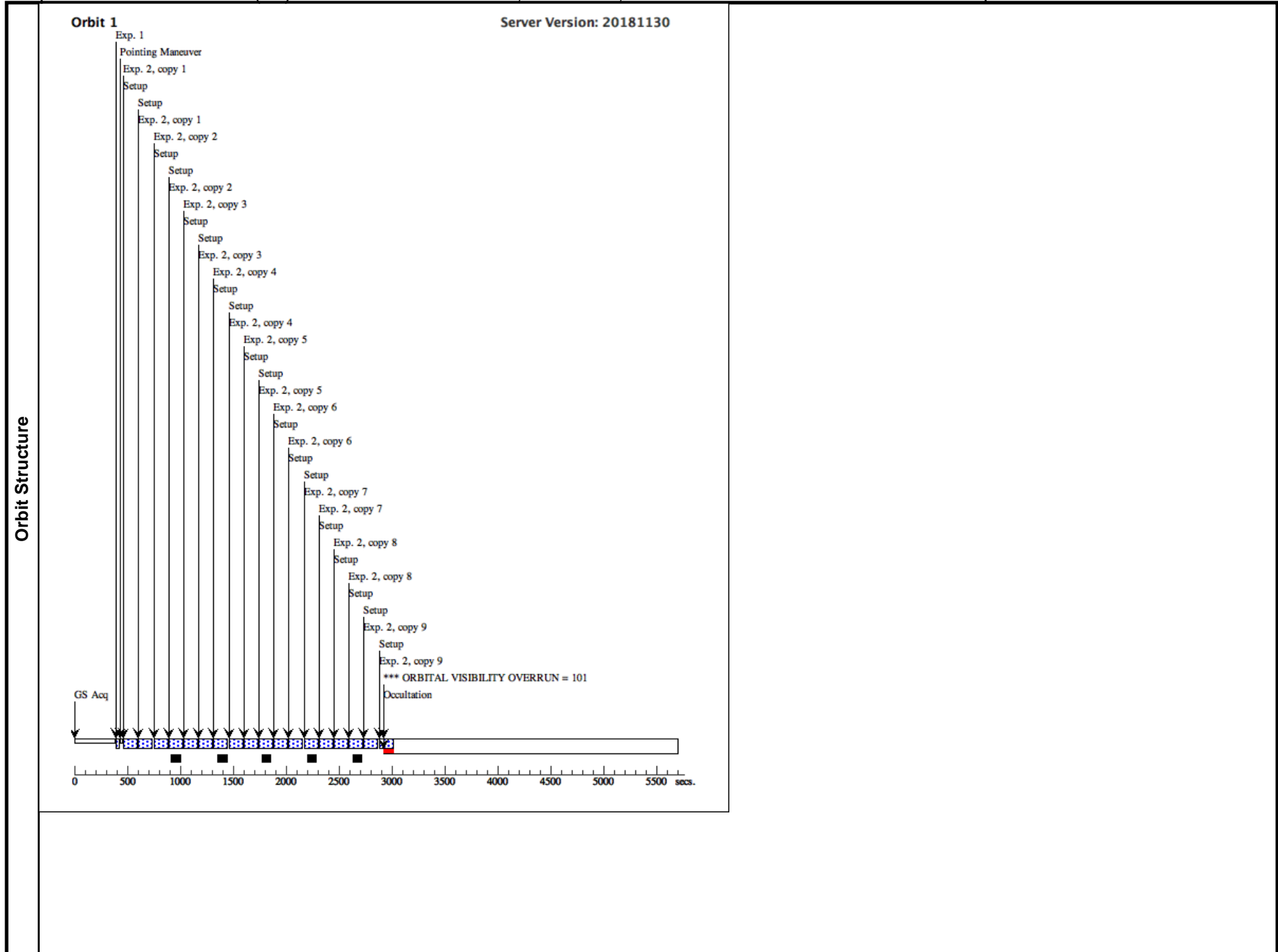
4	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward	Sequence 3-4 Non-Int in K2-18 b (01)	103.128633 Secs (103.129 Secs)	[2]
5	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Round trip	Sequence 5-6 Non-Int in K2-18 b (01)	103.128633 Secs X 9 (1856.315 Secs)	[3]
6	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward	Sequence 5-6 Non-Int in K2-18 b (01)	103.128633 Secs (103.129 Secs)	[3]

Proposal 14682 - K2-18 b (01) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

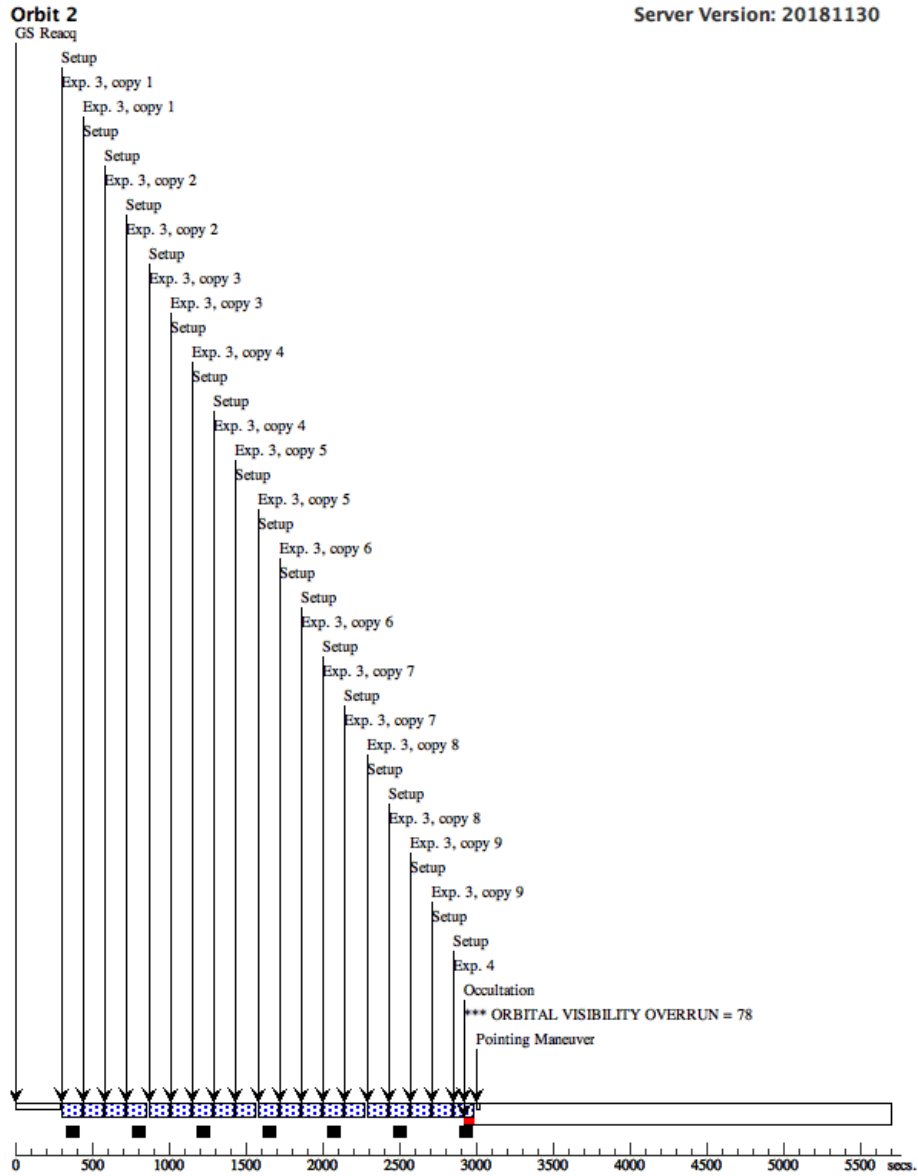
7	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Round trip	Sequence 7-8 Non-Int in K2-18 b (01)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[4]
8	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward	Sequence 7-8 Non-Int in K2-18 b (01)	103.128633 Secs (103.129 Secs) [==>]	[4]
9	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Round trip	Sequence 9-10 Non-Int in K2-18 b (01)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[5]

Proposal 14682 - K2-18 b (01) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

	10 G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward	Sequence 9-10 Non-Int in K2-18 b (01)	103.128633 Secs (103.129 Secs) [==>]	[5]
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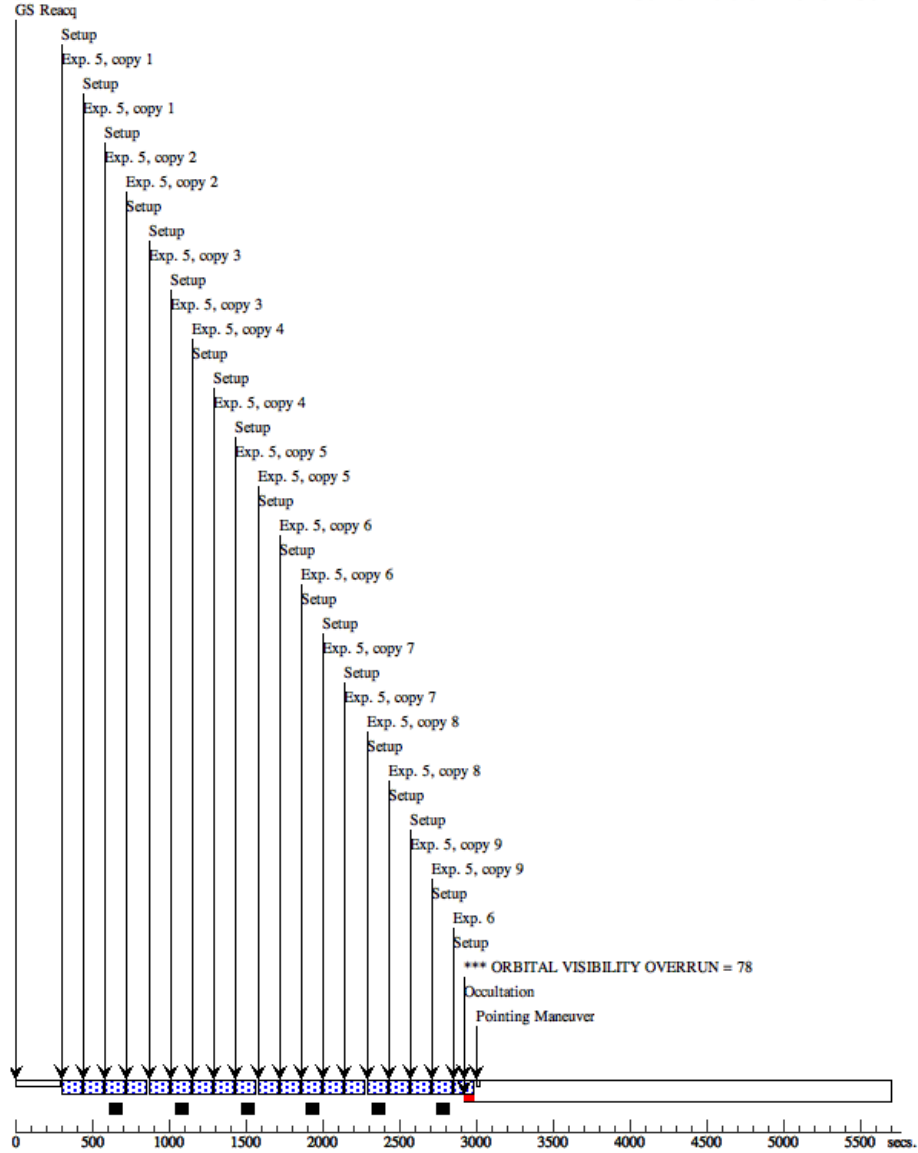
Proposal 14682 - K2-18 b (01) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-18 b (01) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 3

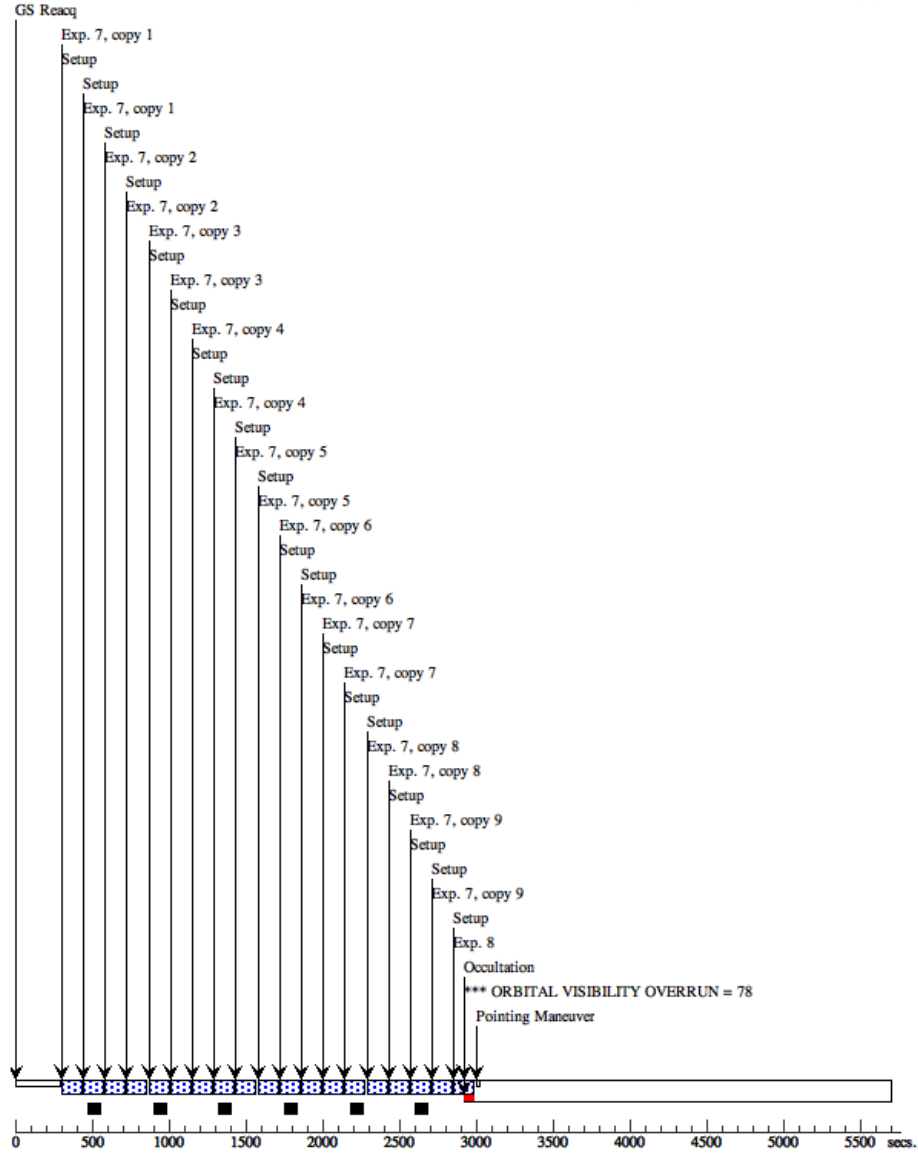
Server Version: 20181130



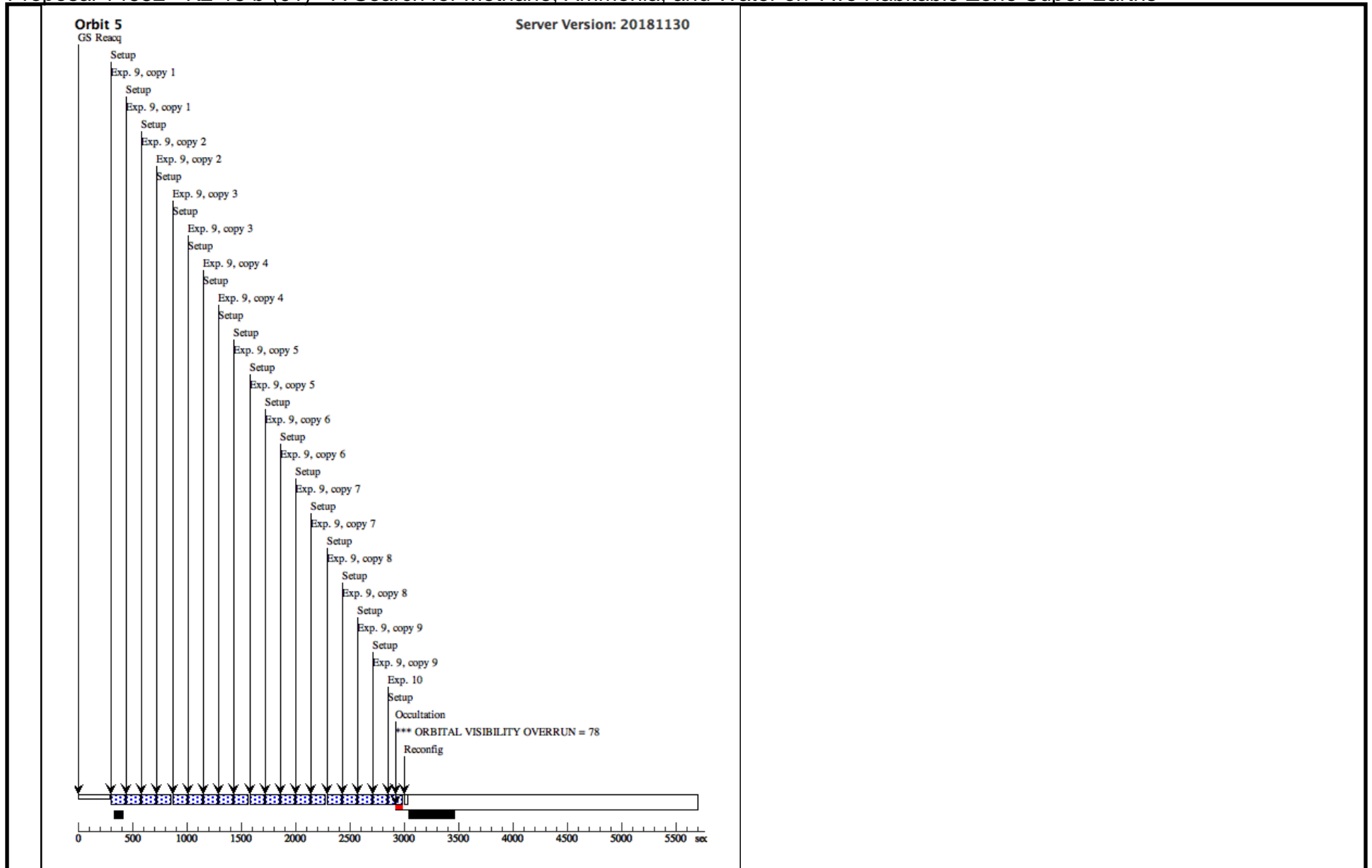
Proposal 14682 - K2-18 b (01) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 4

Server Version: 20181130



Proposal 14682 - K2-18 b (01) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-18 b (02) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:07:59 GMT 2018

Visit	<p>Proposal 14682, K2-18 b (02), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 32.939700 D AND ZERO-PHASE HJD2457264.391819</p> <p><i>Comments: WFC3/G141 transit visit of K2-18b. It is essential for the orbits in each visit to be scheduled in a contiguous block. Six identical visits of K2-18b will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>																																			
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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>(2)</td> <td>K2-18</td> <td>RA: 11 30 14.5090 (172.5604542d)</td> <td>Proper Motion RA: -89.8 mas/yr</td> <td>V=13.5+/-0.05</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td></td> <td>Alt Name1:</td> <td>Dec: +07 35 18.21 (7.58839d)</td> <td>Proper Motion Dec: -136.7 mas/yr</td> <td>J = 9.76; H = 9.13</td> <td></td> </tr> <tr> <td></td> <td>EPIC201912552B</td> <td>Equinox: J2000</td> <td>Epoch of Position: 2000</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Alt Name2: K2-18D</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><i>Comments:</i> <i>Category=STAR</i> <i>Description=[M III-I]</i></p>						#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(2)	K2-18	RA: 11 30 14.5090 (172.5604542d)	Proper Motion RA: -89.8 mas/yr	V=13.5+/-0.05	Reference Frame: ICRS		Alt Name1:	Dec: +07 35 18.21 (7.58839d)	Proper Motion Dec: -136.7 mas/yr	J = 9.76; H = 9.13			EPIC201912552B	Equinox: J2000	Epoch of Position: 2000				Alt Name2: K2-18D			
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																														
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Proposal 14682 - K2-18 b (02) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

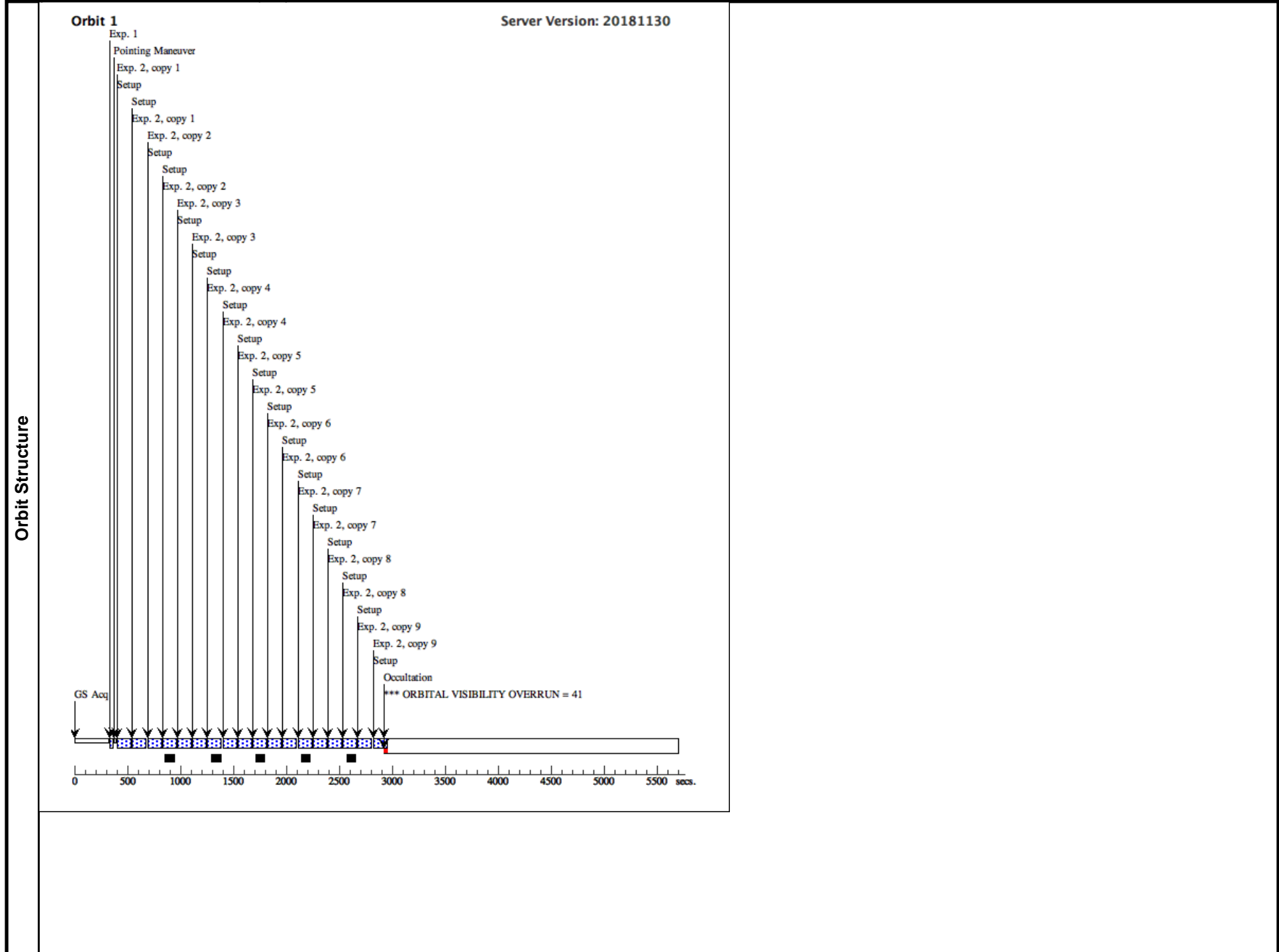
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Acquisition	(2) K2-18	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.9934 TO 0.99543; GS ACQ SCENARIO BASE1B3	Sequence 1-2 Non-Int in K2-18 b (02)	0.833445 Secs (0.833 Secs)	[1]
	2	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Rounded trip	Sequence 1-2 Non-Int in K2-18 b (02)	103.128633 Secs X 9 (1856.315 Secs)	[1]
									[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	
	3	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Rounded trip	Sequence 3-4 Non-Int in K2-18 b (02)	103.128633 Secs X 9 (1856.315 Secs)	[2]
								[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]		

Proposal 14682 - K2-18 b (02) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

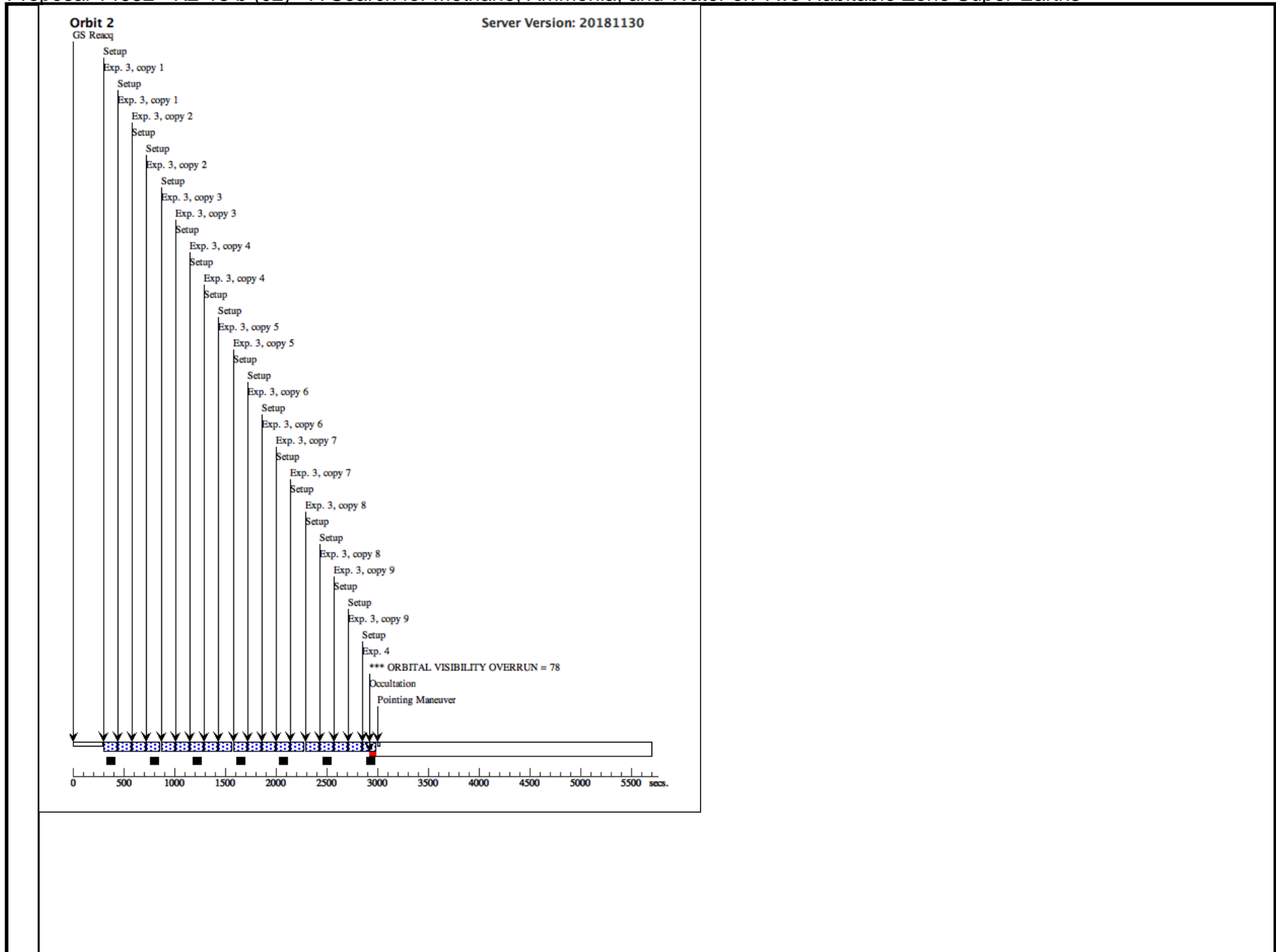
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5	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Round trip	Sequence 5-6 Non-Int in K2-18 b (02)	103.128633 Secs X 8 (1650.058 Secs)	[3]
6	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward	Sequence 5-6 Non-Int in K2-18 b (02)	103.128633 Secs (103.129 Secs)	[3]
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8	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward	Sequence 7-8 Non-Int in K2-18 b (02)	103.128633 Secs (103.129 Secs)	[4]

Proposal 14682 - K2-18 b (02) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

9	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Roun d trip	Sequence 9-9 Non-In t in K2-18 b (02)	103.128633 Secs X 7 (1443.801 Sec s) [=>(Copy 1, Forward)] [=>(Copy 1, Reverse)] [=>(Copy 2, Forward)] [=>(Copy 2, Reverse)] [=>(Copy 3, Forward)] [=>(Copy 3, Reverse)] [=>(Copy 4, Forward)] [=>(Copy 4, Reverse)] [=>(Copy 5, Forward)] [=>(Copy 5, Reverse)] [=>(Copy 6, Forward)] [=>(Copy 6, Reverse)] [=>(Copy 7, Forward)] [=>(Copy 7, Reverse)]	[5]
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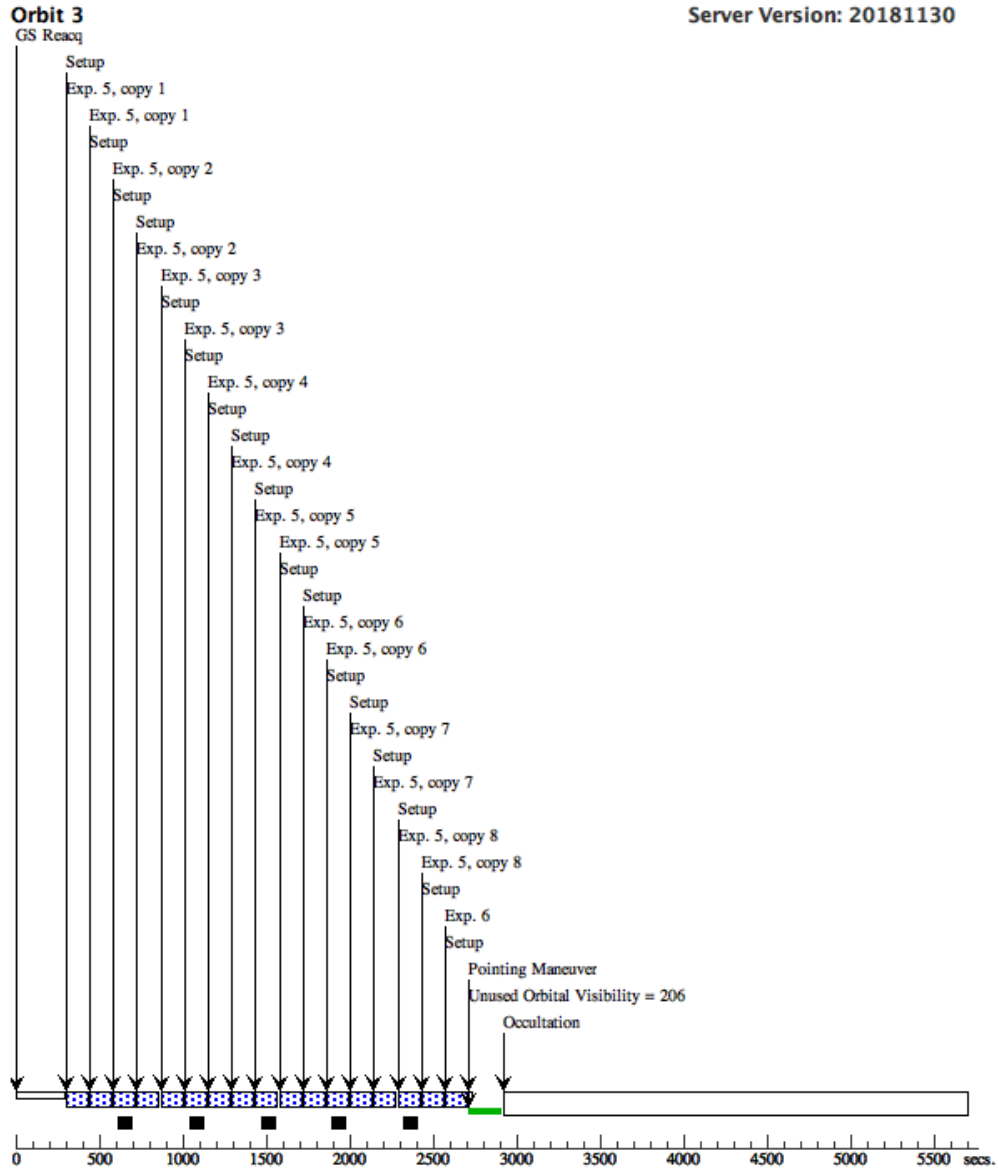


Proposal 14682 - K2-18 b (02) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



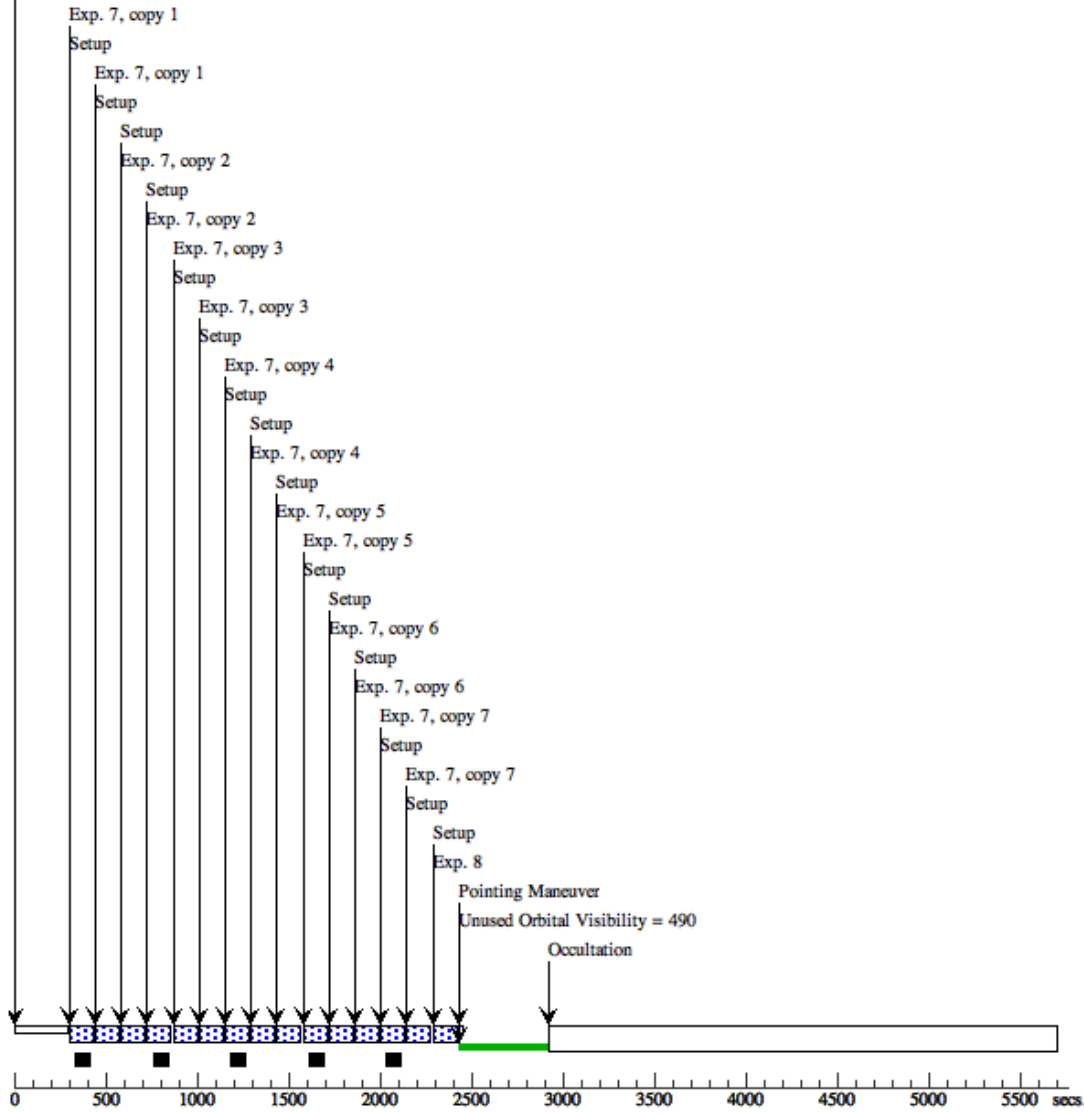
Proposal 14682 - K2-18 b (02) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

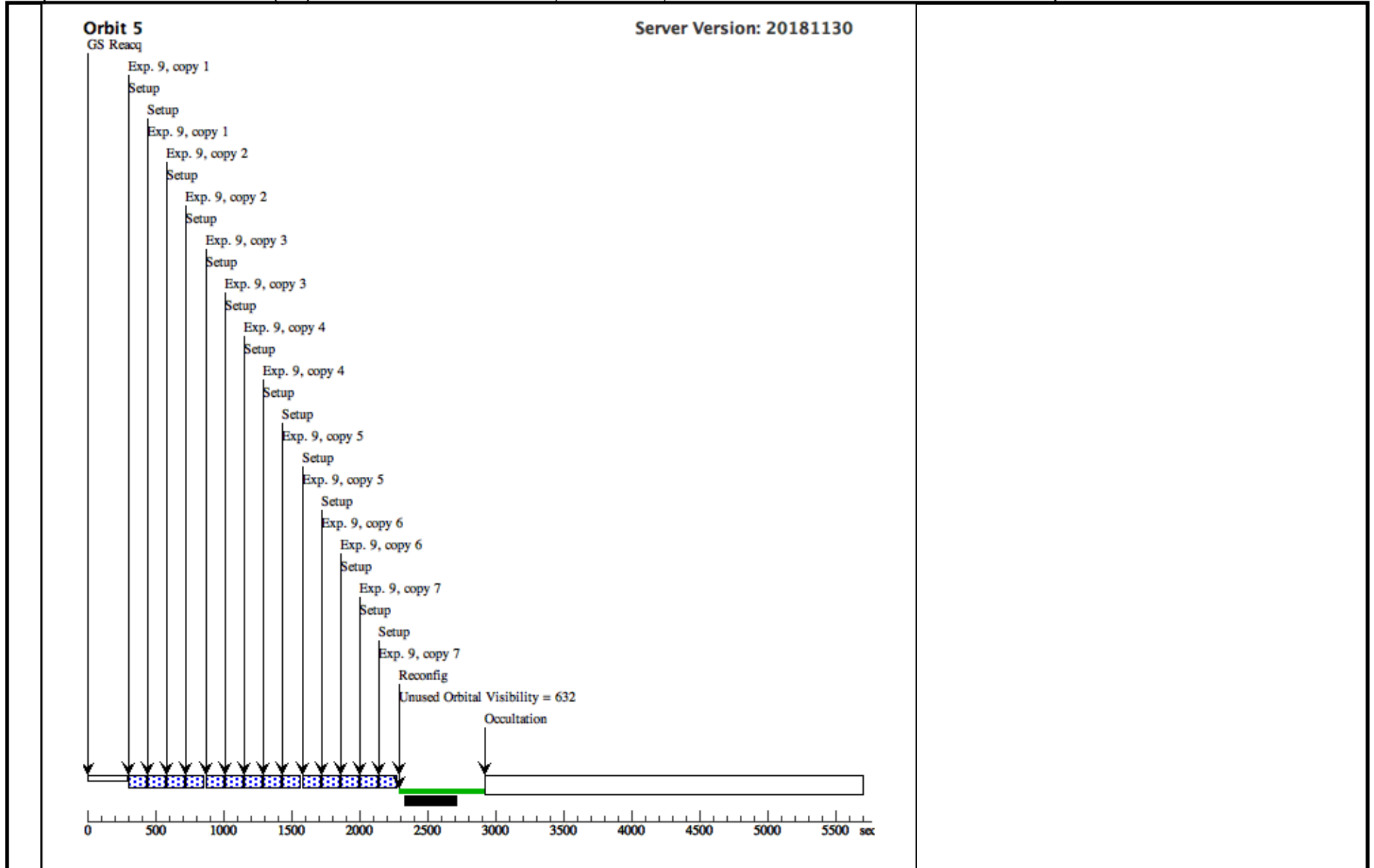
Server Version: 20181130



Server Version: 20181130

Orbit 4
GS Reacq





Proposal 14682 - K2-18 b (03) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:08:00 GMT 2018

Visit	<p>Proposal 14682, K2-18 b (03), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 32.939700 D AND ZERO-PHASE HJD2457264.391819</p> <p><i>Comments: WFC3/G141 transit visit of K2-18b. It is essential for the orbits in each visit to be scheduled in a contiguous block. Six identical visits of K2-18b will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>																																			
	Diagnostics	<p>(K2-18 b (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-18 b (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-18 b (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>																																		
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>(2)</td> <td>K2-18</td> <td>RA: 11 30 14.5090 (172.5604542d)</td> <td>Proper Motion RA: -89.8 mas/yr</td> <td>V=13.5+/-0.05</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td></td> <td>Alt Name1:</td> <td>Dec: +07 35 18.21 (7.58839d)</td> <td>Proper Motion Dec: -136.7 mas/yr</td> <td>J = 9.76; H = 9.13</td> <td></td> </tr> <tr> <td></td> <td>EPIC201912552B</td> <td>Equinox: J2000</td> <td>Epoch of Position: 2000</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Alt Name2: K2-18D</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><i>Comments:</i> <i>Category=STAR</i> <i>Description=[M III-I]</i></p>						#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(2)	K2-18	RA: 11 30 14.5090 (172.5604542d)	Proper Motion RA: -89.8 mas/yr	V=13.5+/-0.05	Reference Frame: ICRS		Alt Name1:	Dec: +07 35 18.21 (7.58839d)	Proper Motion Dec: -136.7 mas/yr	J = 9.76; H = 9.13			EPIC201912552B	Equinox: J2000	Epoch of Position: 2000				Alt Name2: K2-18D			
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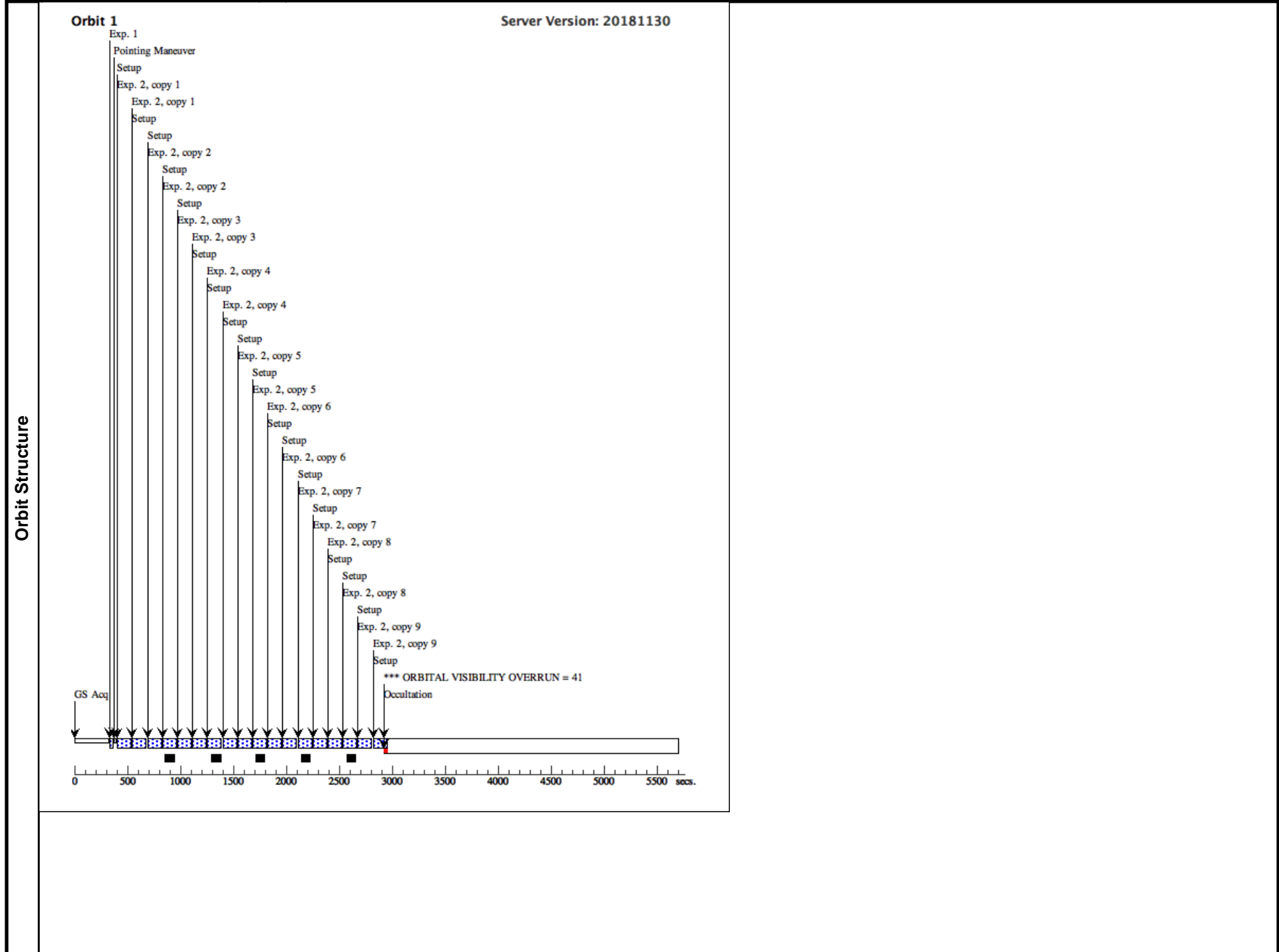
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Acquisition	(2) K2-18	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.9934 TO 0.99543; GS ACQ SCENARIO BASE1B3	Sequence 1-2 Non-Int in K2-18 b (03)	0.833445 Secs (0.833 Secs)	[1]
	2	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Rounded trip	Sequence 1-2 Non-Int in K2-18 b (03)	103.128633 Secs X 9 (1856.315 Secs)	[1]
									[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	
	3	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Rounded trip	Sequence 3-4 Non-Int in K2-18 b (03)	103.128633 Secs X 9 (1856.315 Secs)	[2]
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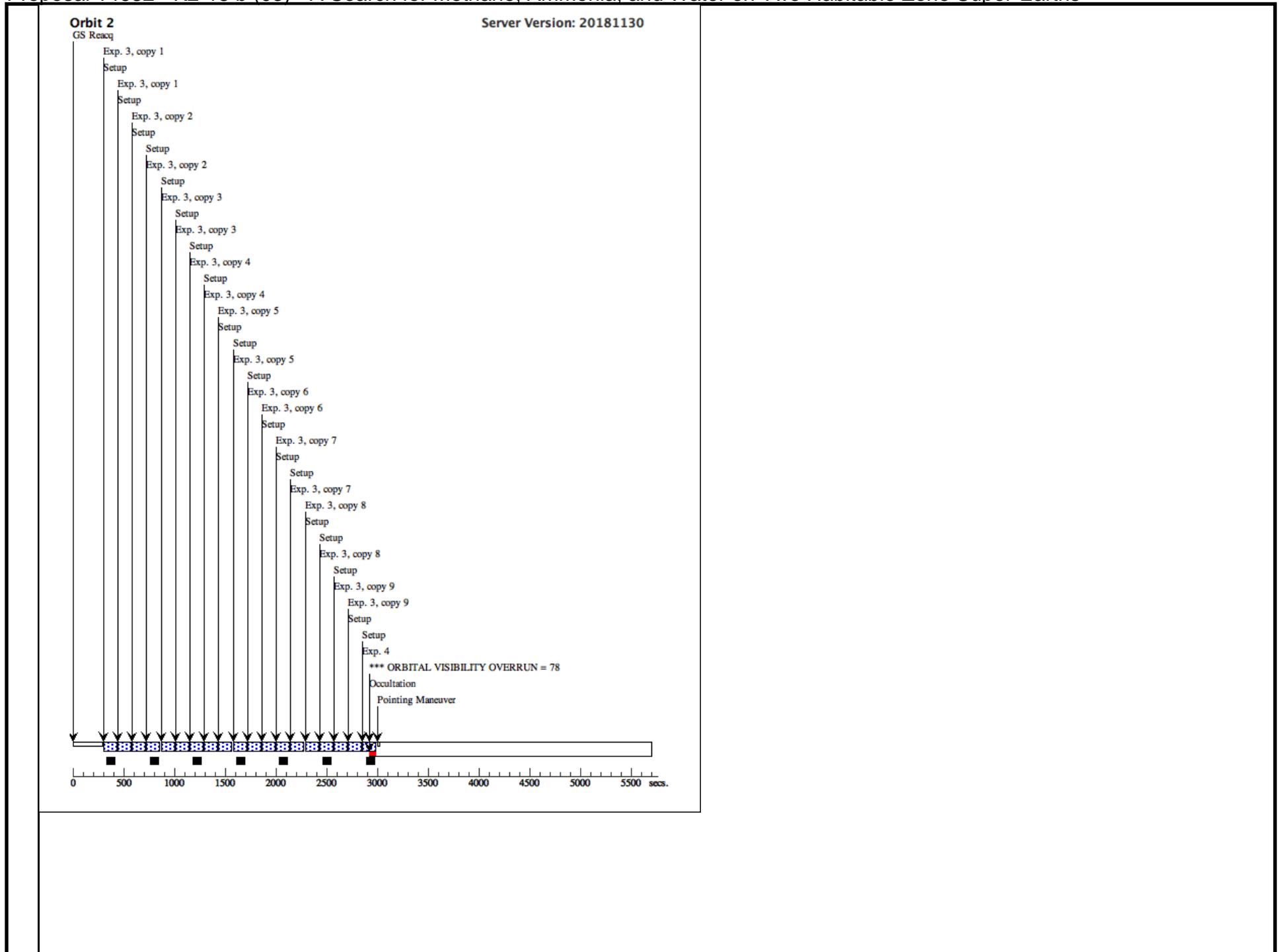
4	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward	Sequence 3-4 Non-Int in K2-18 b (03)	103.128633 Secs (103.129 Secs)	[2]
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8	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward	Sequence 7-8 Non-Int in K2-18 b (03)	103.128633 Secs (103.129 Secs) [==>]	[4]
9	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Round trip	Sequence 9-10 Non-Int in K2-18 b (03)	103.128633 Secs X 7 (1443.801 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[5]
10	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward	Sequence 9-10 Non-Int in K2-18 b (03)	103.128633 Secs (103.129 Secs) [==>]	[5]



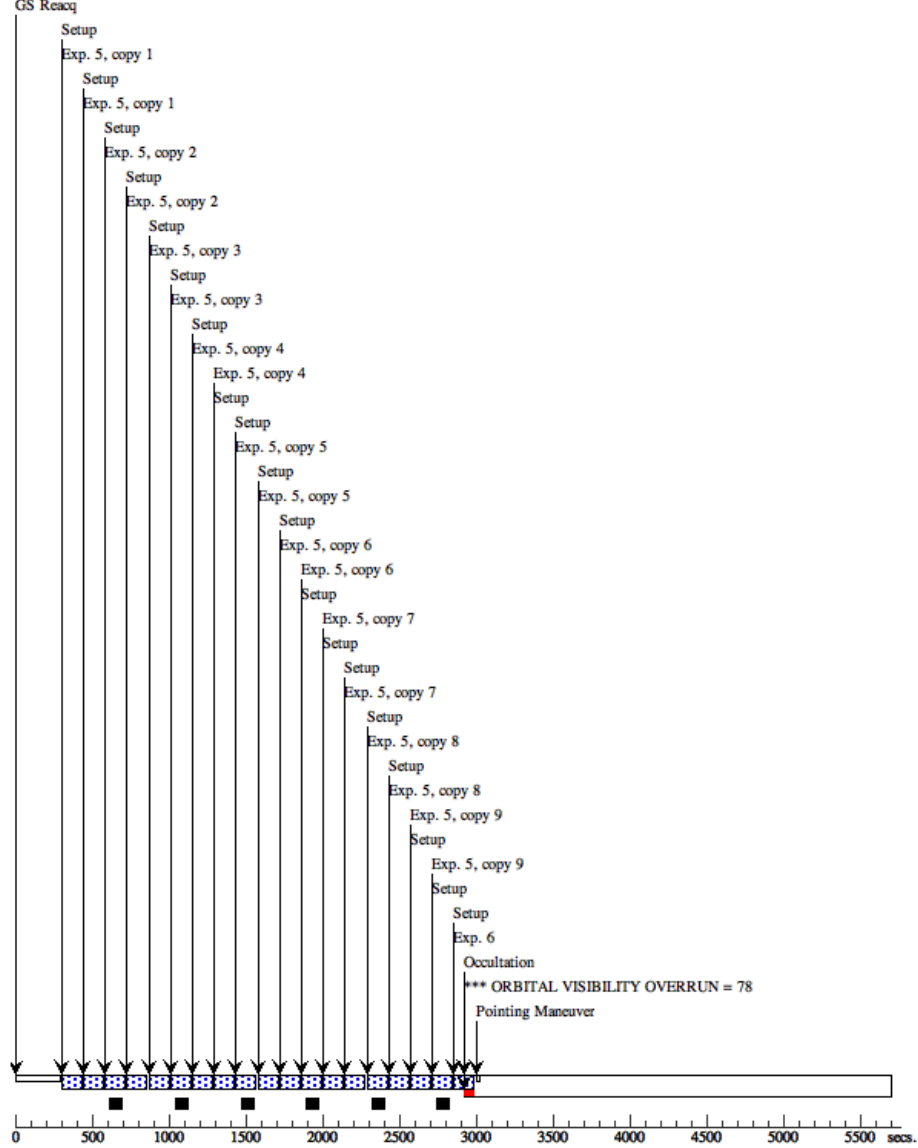
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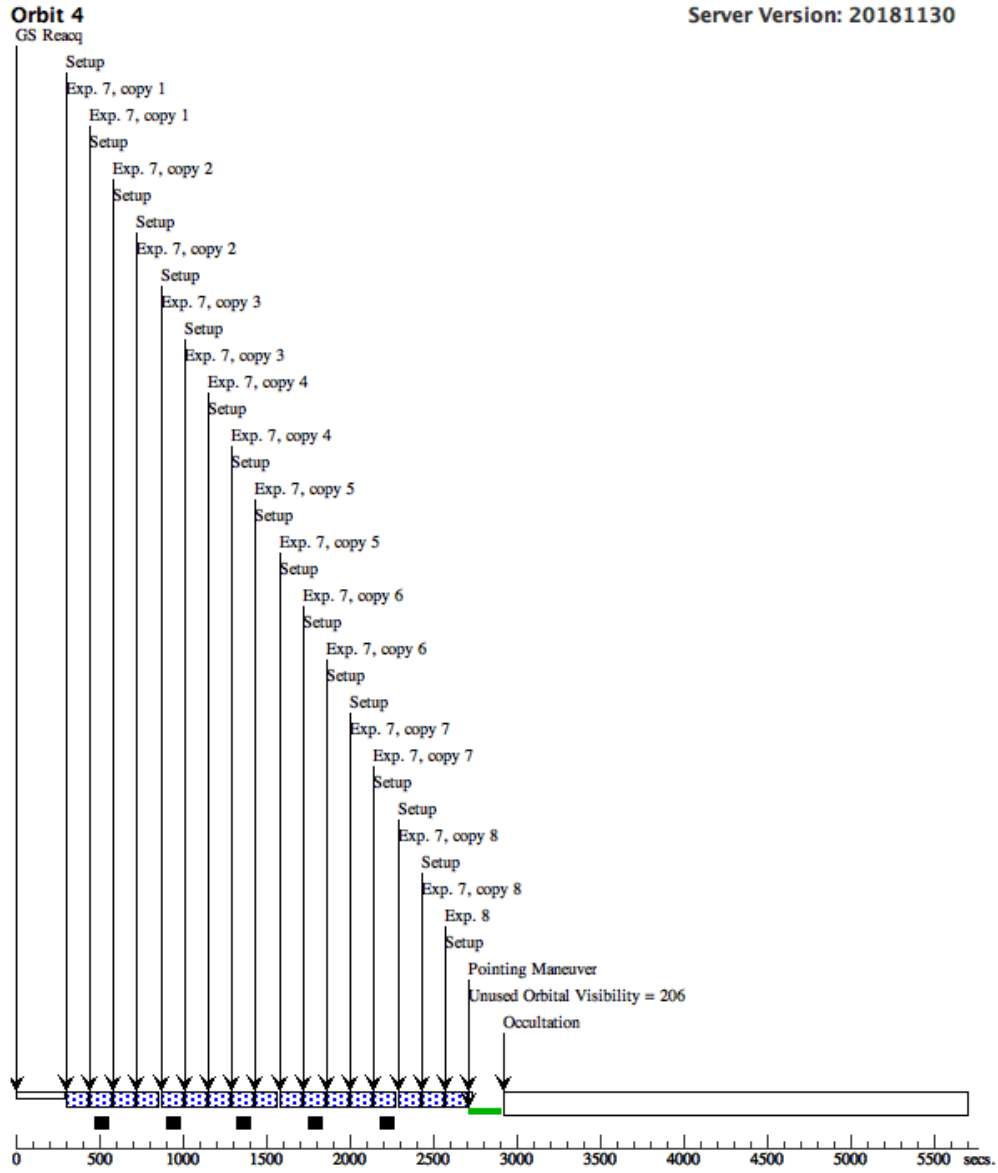
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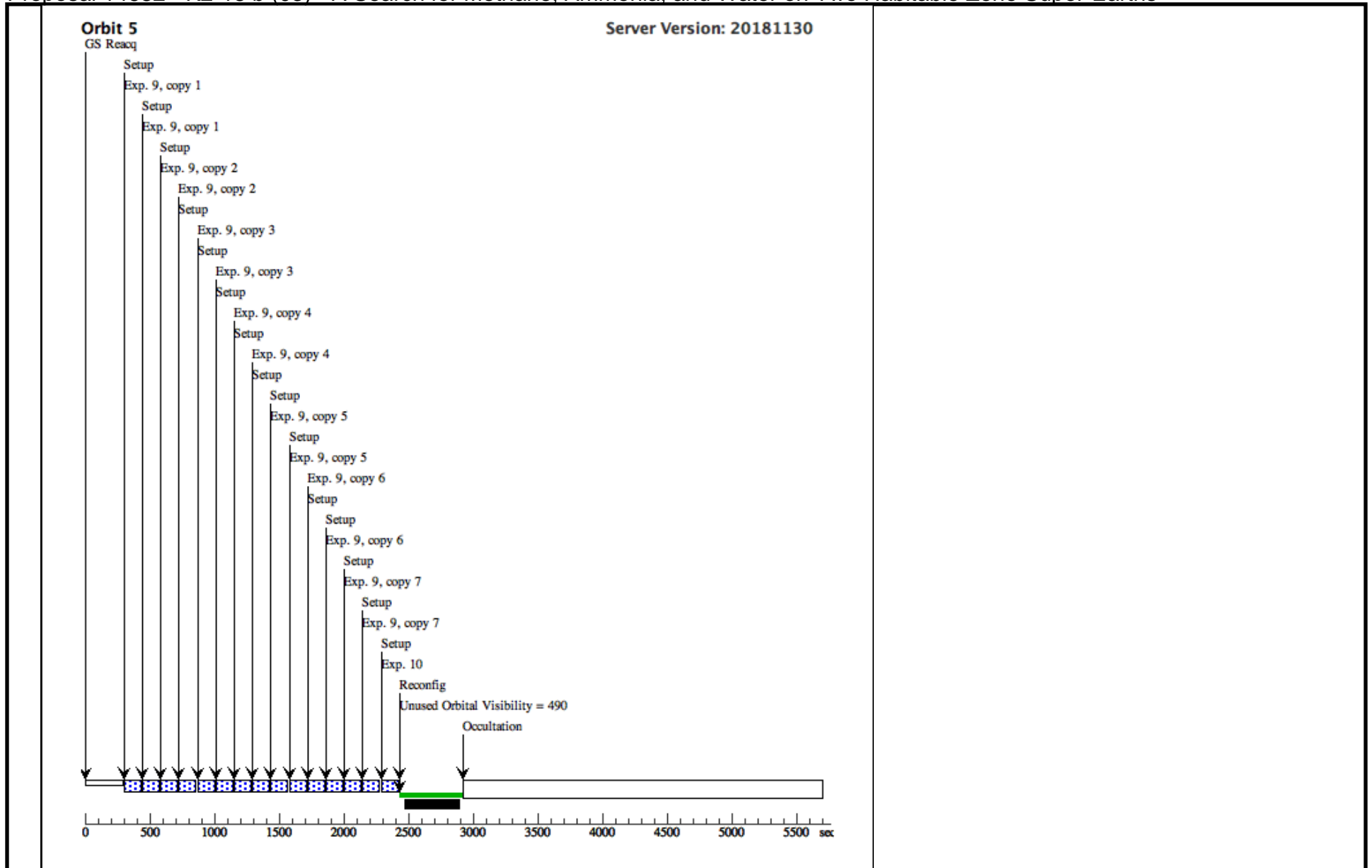
Orbit 3

Server Version: 20181130



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Proposal 14682 - K2-18 b (04) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

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		EPIC201912552B	Equinox: J2000	Epoch of Position: 2000		
		Alt Name2: K2-18D				
	<p><i>Comments:</i></p> <p><i>Category=STAR</i></p> <p><i>Description=[M III-I]</i></p>					

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1	Acquisition	(2) K2-18	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.9934 TO 0.99543	Sequence 1-2 Non-Int in K2-18 b (04)	0.833445 Secs (0.833 Secs) [==>]	[1]
2	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Round trip	Sequence 1-2 Non-Int in K2-18 b (04)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[1]
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Exposures

Proposal 14682 - K2-18 b (04) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

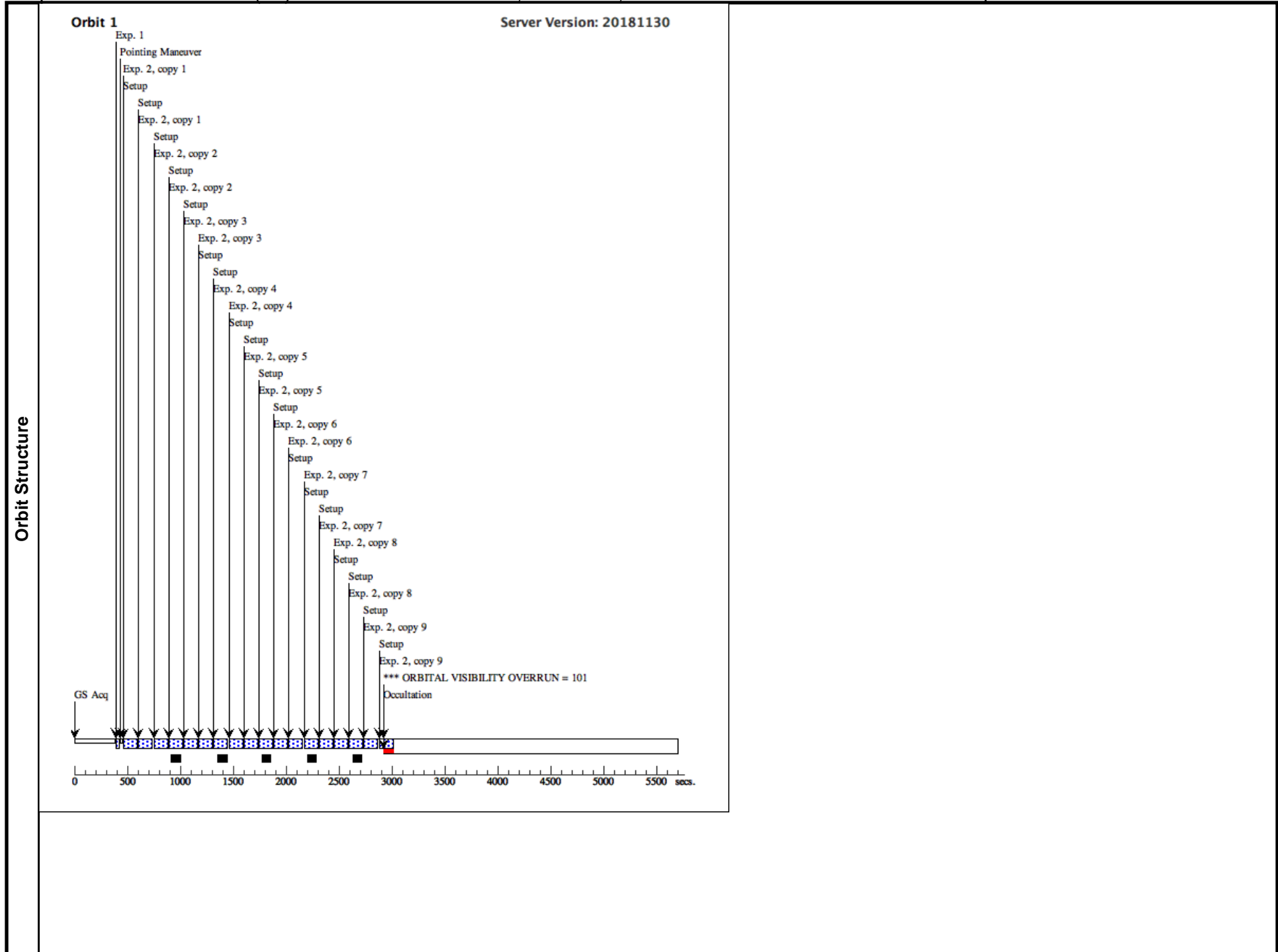
4	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward	Sequence 3-4 Non-Int in K2-18 b (04)	103.128633 Secs (103.129 Secs)	[2]
5	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Round trip	Sequence 5-6 Non-Int in K2-18 b (04)	103.128633 Secs X 9 (1856.315 Secs)	[3]
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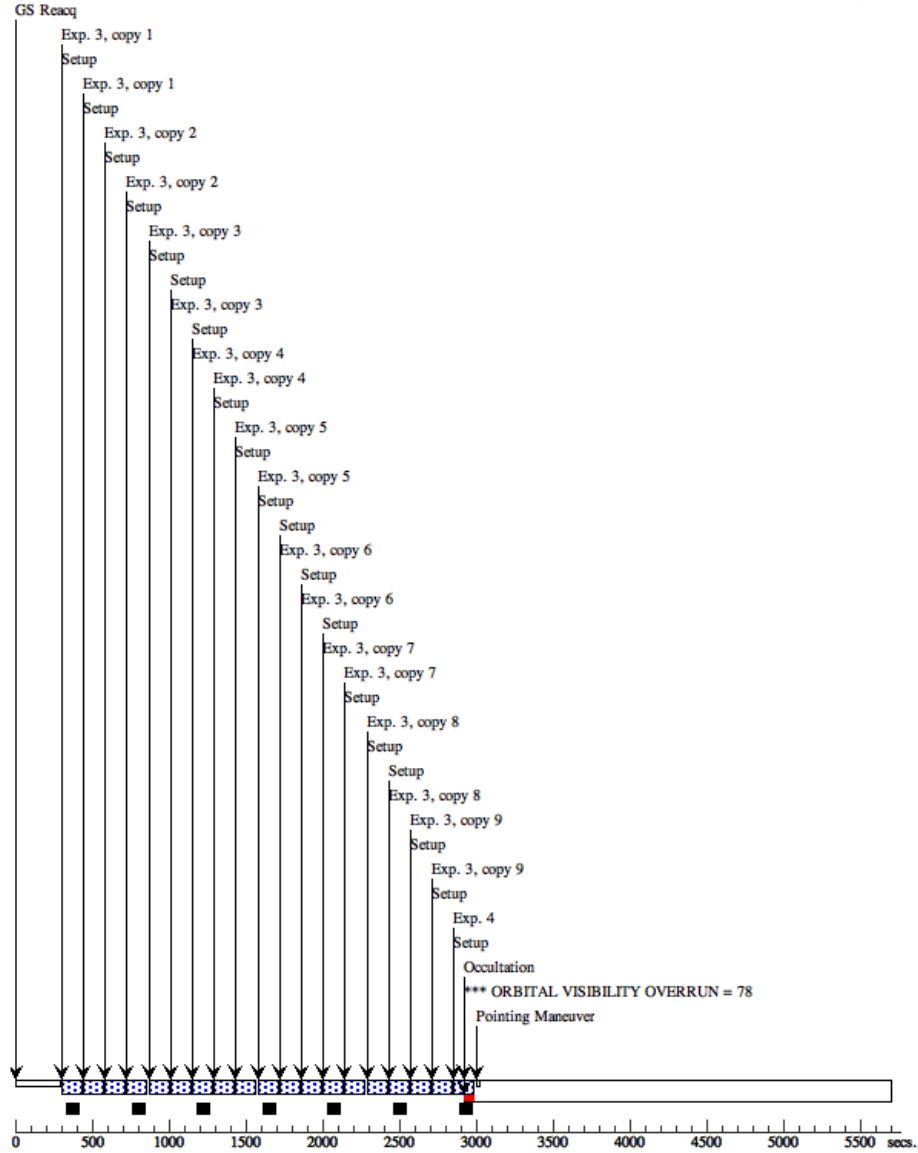
10	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward	Sequence 9-10 Non-I nt in K2-18 b (04)	103.128633 Secs (103.129 Secs) [==>]	[5]
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Orbit 2

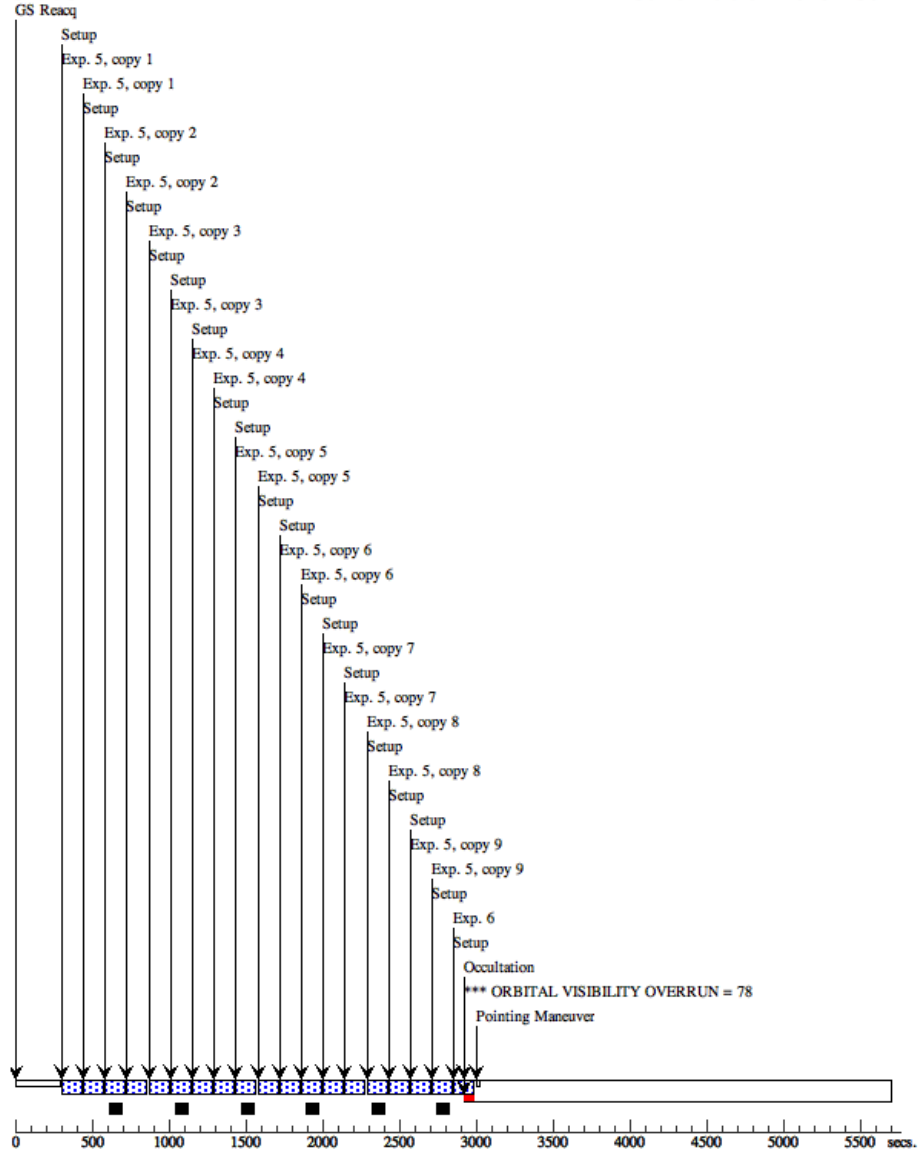
Server Version: 20181130



Proposal 14682 - K2-18 b (04) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 3

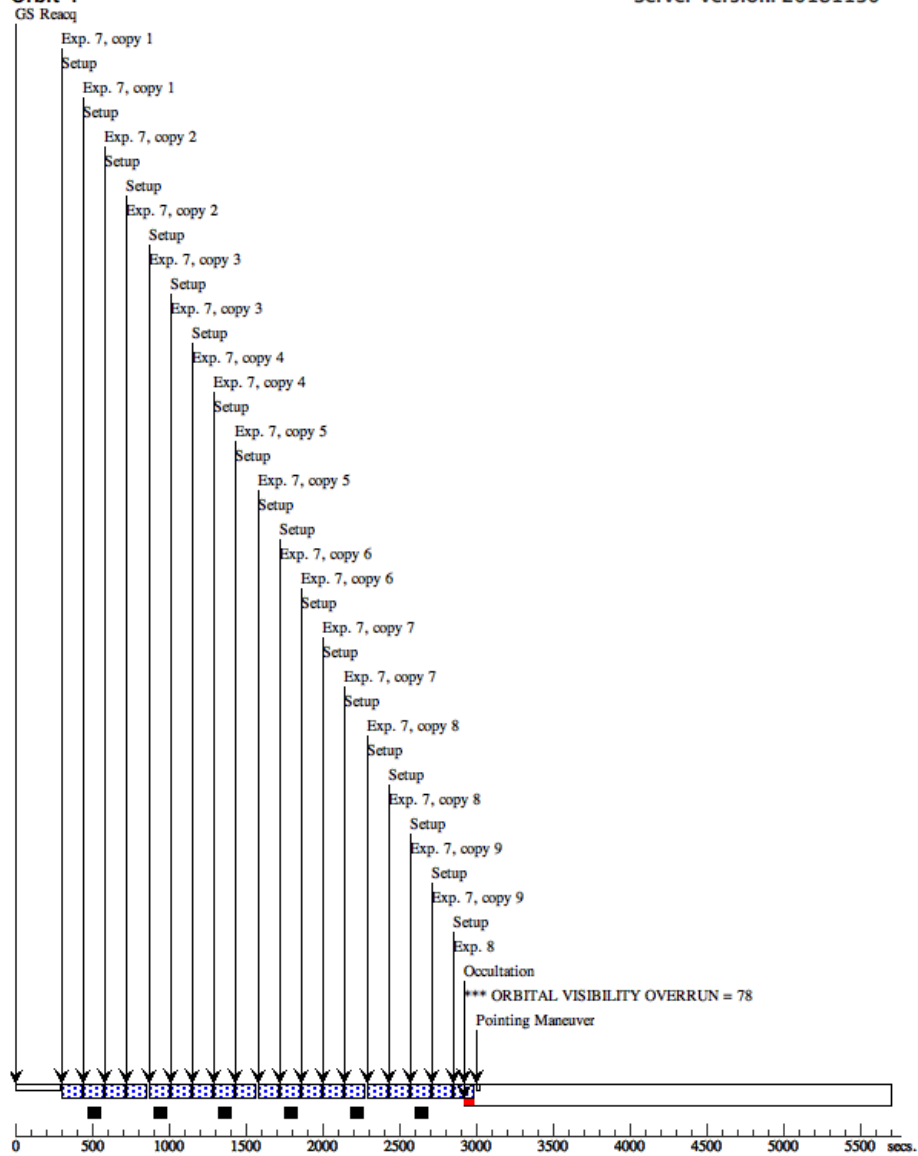
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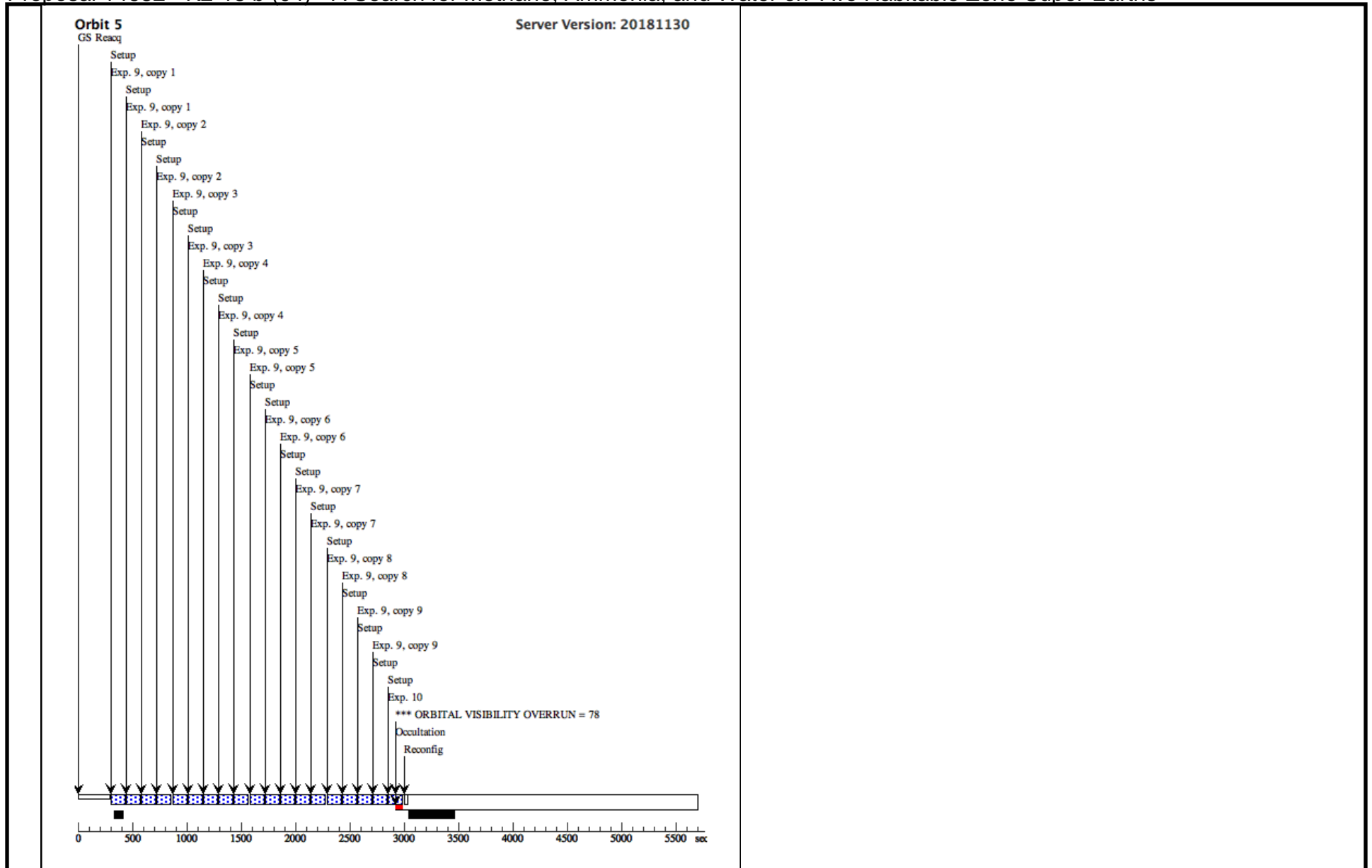
Proposal 14682 - K2-18 b (04) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 4

Server Version: 20181130



Proposal 14682 - K2-18 b (04) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-18 b Avoid SAA (05) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:08:00 GMT 2018

Visit	<p>Proposal 14682, K2-18 b Avoid SAA (05), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 32.939700 D AND ZERO-PHASE HJD2457264.391819</p> <p><i>Comments: WFC3/G141 transit visit of K2-18b. It is essential for the orbits in each visit to be scheduled in a contiguous block. Six identical visits of K2-18b will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>					
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		EPIC201912552B	Equinox: J2000	Epoch of Position: 2000		
		Alt Name2: K2-18D				
	<p><i>Comments:</i></p> <p><i>Category=STAR</i></p> <p><i>Description=[M III-I]</i></p>					

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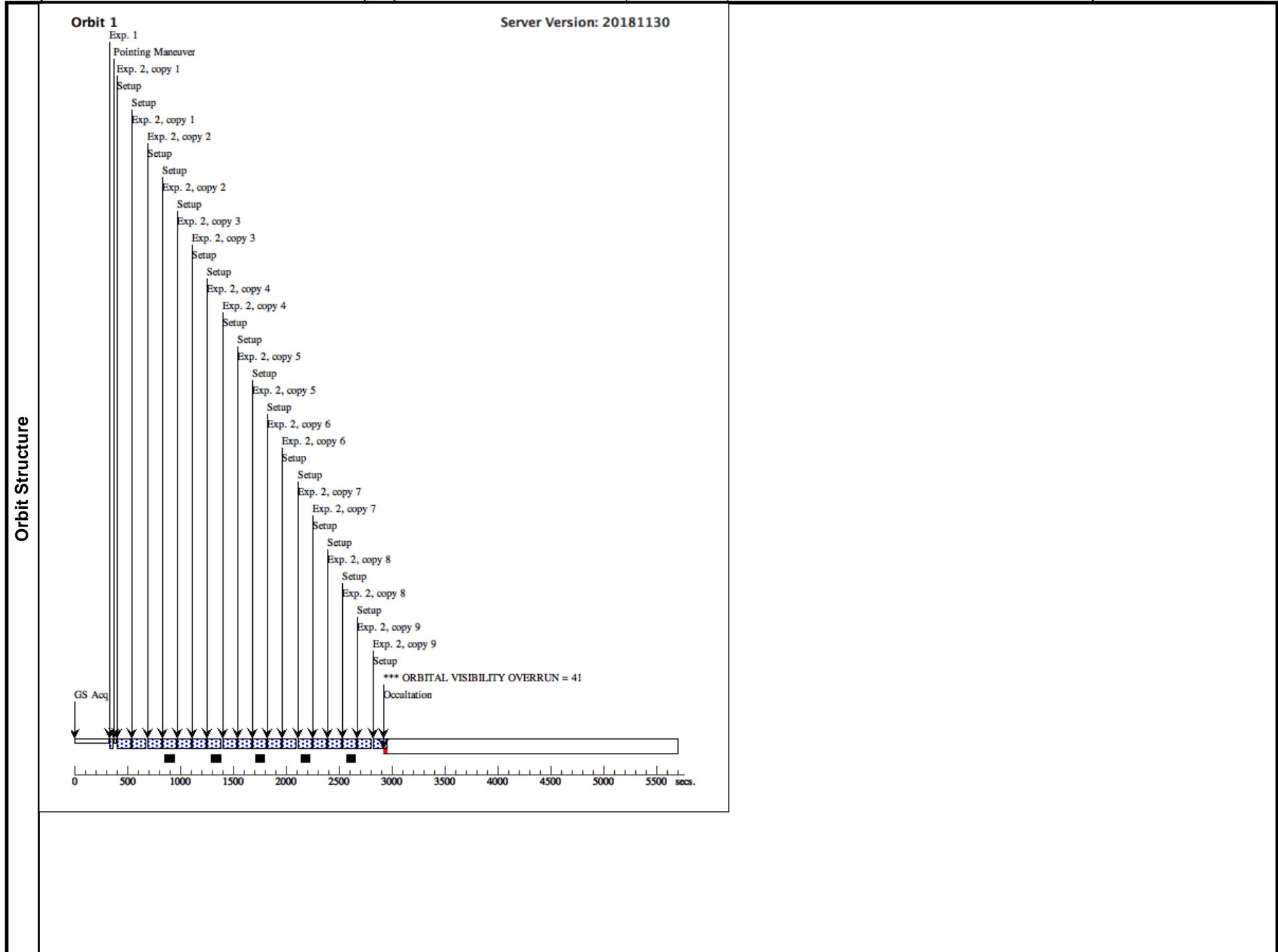
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	3	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Round trip	Sequence 3-4 Non-Int in K2-18 b Avoid SAA (05)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[2]

Proposal 14682 - K2-18 b Avoid SAA (05) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

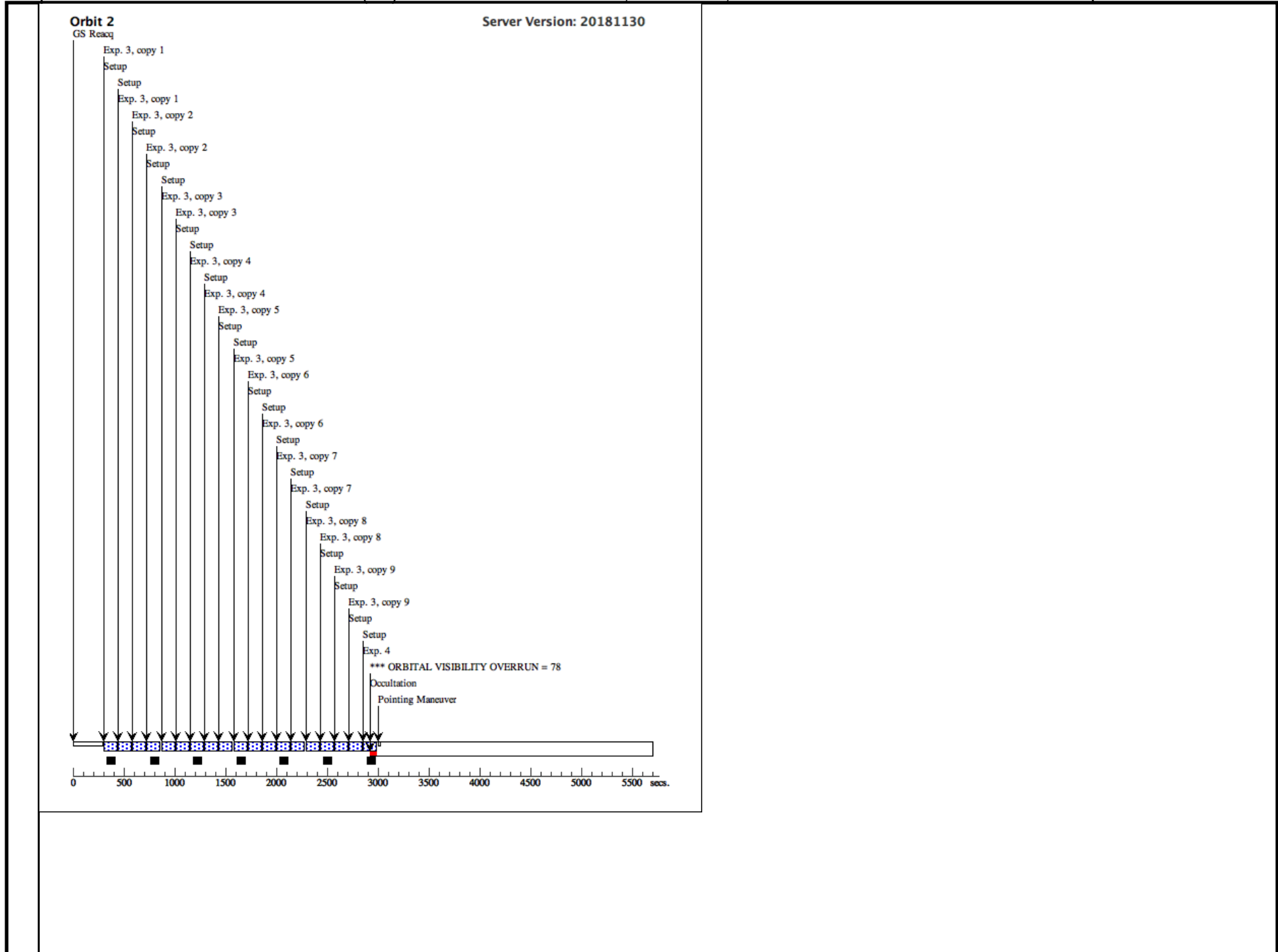
4	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Forward	Sequence 3-4 Non-Int in K2-18 b Avoid SAA (05)	103.128633 Secs (103.129 Secs)	[2]
5	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Round trip	Sequence 5-6 Non-Int in K2-18 b Avoid SAA (05)	103.128633 Secs X 9 (1856.315 Secs)	[3]
6	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Forward	Sequence 5-6 Non-Int in K2-18 b Avoid SAA (05)	103.128633 Secs (103.129 Secs)	[3]
7	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Round trip	Sequence 7-7 Non-Int in K2-18 b Avoid SAA (05)	103.128633 Secs X 5 (1031.286 Secs)	[4]

Proposal 14682 - K2-18 b Avoid SAA (05) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

8	G141 Science (2) K2-18 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Roun d trip	Sequence 8-8 Non-Int in K2-18 b Avoid S AA (05)	103.128633 Secs X 5 (1031.286 Sec s)	
<p>[==>(Copy 1, Forward)]</p> <p>[==>(Copy 1, Reverse)]</p> <p>[==>(Copy 2, Forward)]</p> <p>[==>(Copy 2, Reverse)]</p> <p>[==>(Copy 3, Forward)]</p> <p>[==>(Copy 3, Reverse)]</p> <p>[==>(Copy 4, Forward)]</p> <p>[==>(Copy 4, Reverse)]</p> <p>[==>(Copy 5, Forward)]</p> <p>[==>(Copy 5, Reverse)]</p>								[5]



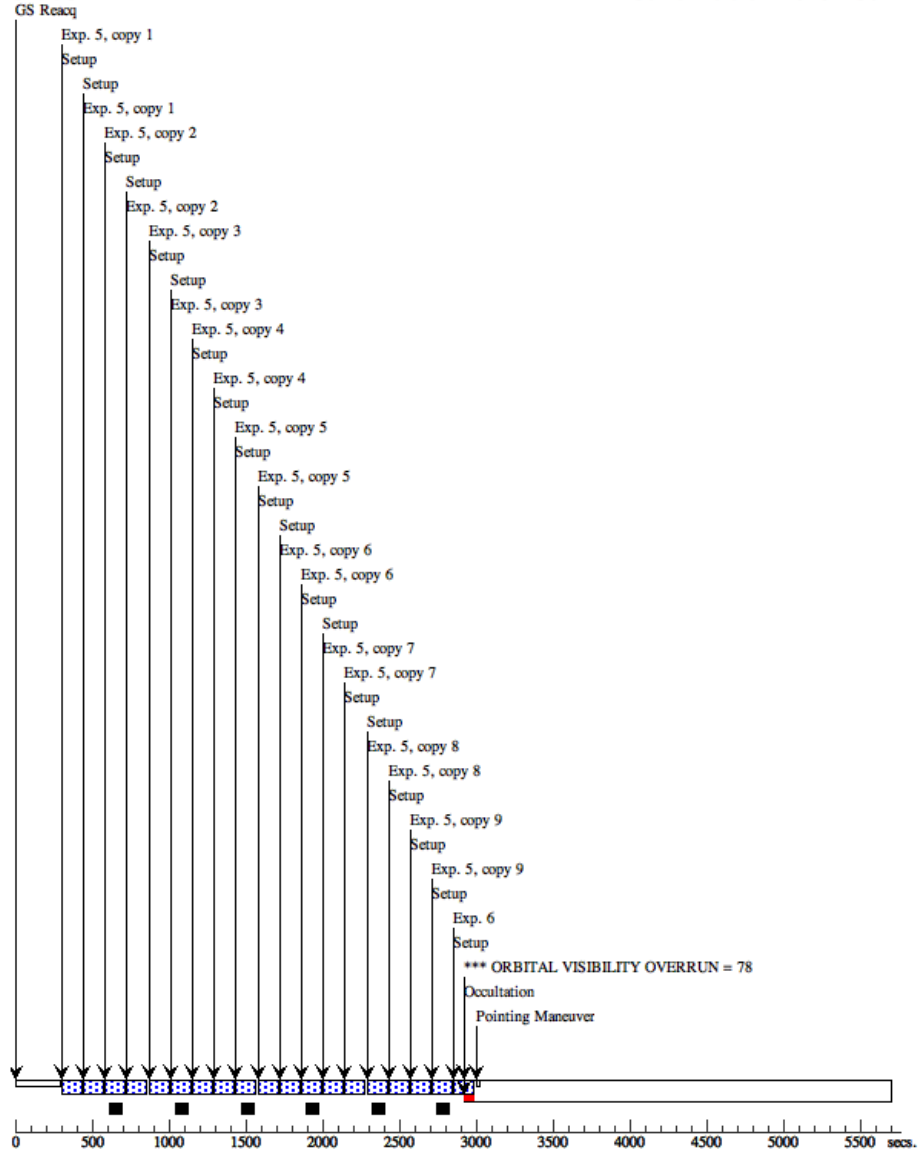
Proposal 14682 - K2-18 b Avoid SAA (05) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-18 b Avoid SAA (05) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

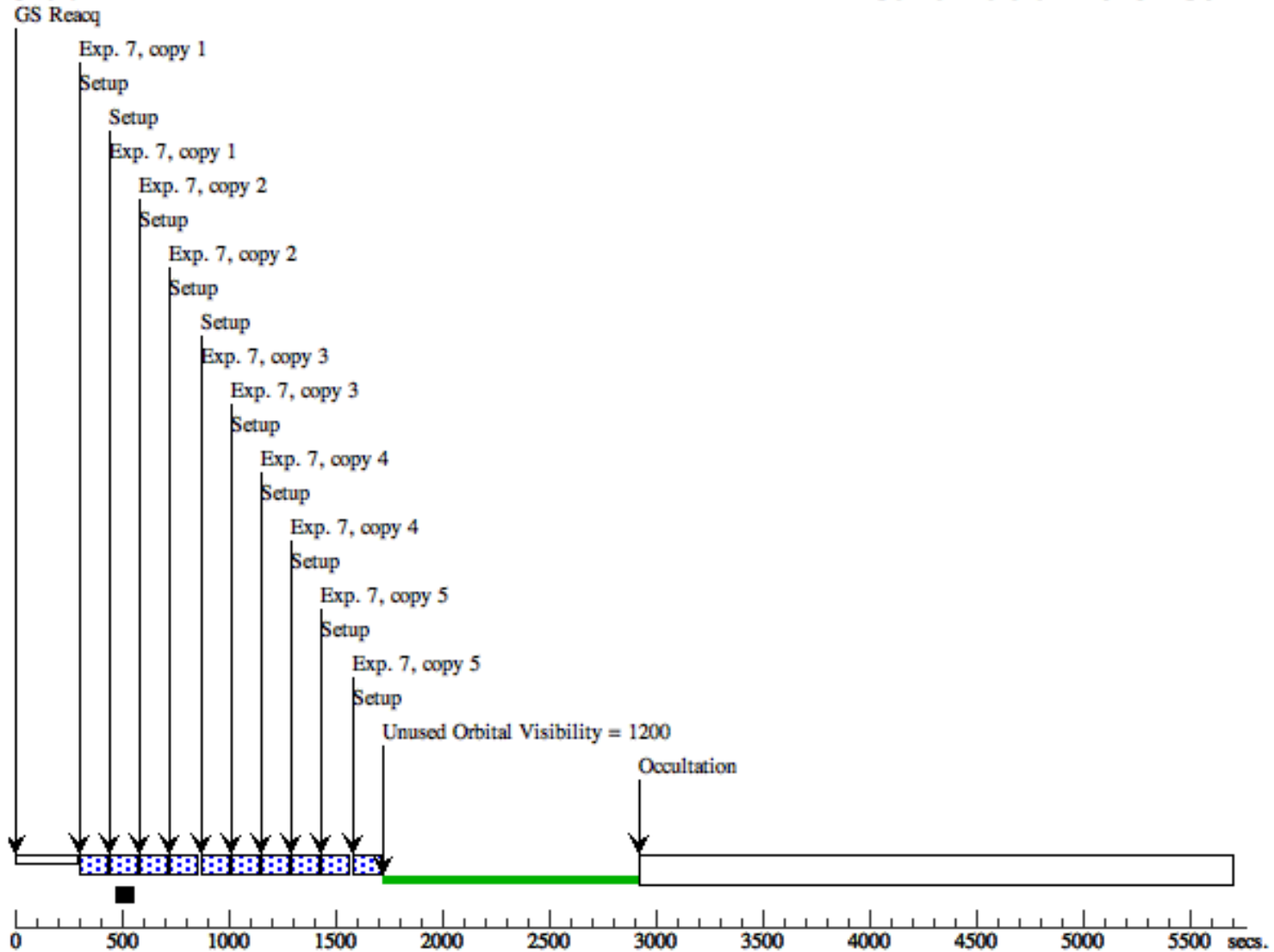
Orbit 3

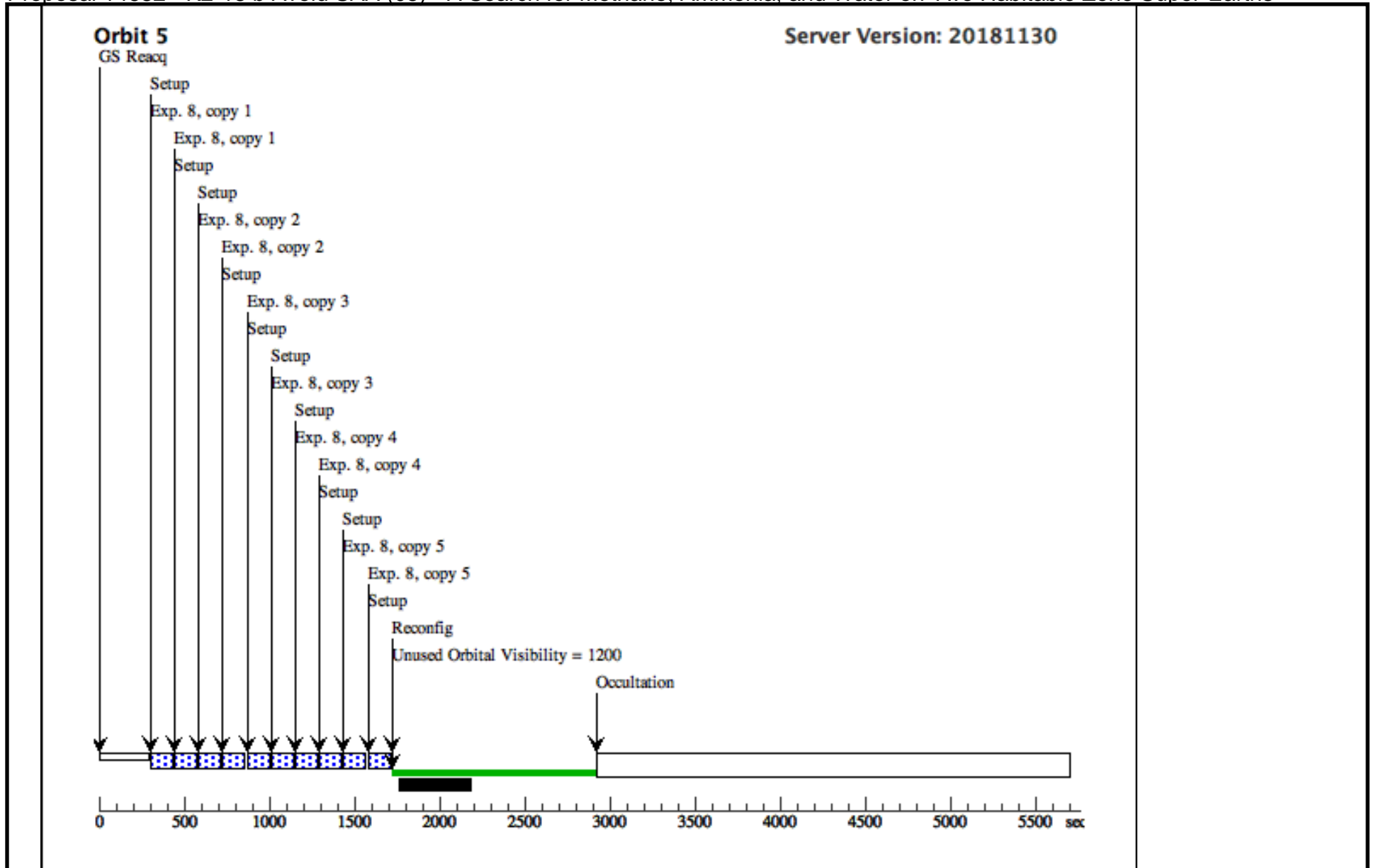
Server Version: 20181130



Orbit 4

Server Version: 20181130





Proposal 14682 - K2-18 b (06) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:08:01 GMT 2018

Visit	<p>Proposal 14682, K2-18 b (06), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 32.939700 D AND ZERO-PHASE HJD2457264.391819</p> <p><i>Comments: WFC3/G141 transit visit of K2-18b. It is essential for the orbits in each visit to be scheduled in a contiguous block. Six identical visits of K2-18b will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>																												
	Diagnostics	(K2-18 b (06)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO																											
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(K2-18 b (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN																													
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>(2)</td> <td>K2-18</td> <td>RA: 11 30 14.5090 (172.5604542d)</td> <td>Proper Motion RA: -89.8 mas/yr</td> <td>V=13.5+/-0.05</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td></td> <td>Alt Name1: EPIC201912552B</td> <td>Dec: +07 35 18.21 (7.58839d)</td> <td>Proper Motion Dec: -136.7 mas/yr</td> <td>J = 9.76; H = 9.13</td> <td></td> </tr> <tr> <td></td> <td>Alt Name2: K2-18D</td> <td>Equinox: J2000</td> <td>Epoch of Position: 2000</td> <td></td> <td></td> </tr> </tbody> </table> <p><i>Comments: Category=STAR Description=[M III-I]</i></p>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(2)	K2-18	RA: 11 30 14.5090 (172.5604542d)	Proper Motion RA: -89.8 mas/yr	V=13.5+/-0.05	Reference Frame: ICRS		Alt Name1: EPIC201912552B	Dec: +07 35 18.21 (7.58839d)	Proper Motion Dec: -136.7 mas/yr	J = 9.76; H = 9.13			Alt Name2: K2-18D	Equinox: J2000	Epoch of Position: 2000		
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																							
	(2)	K2-18	RA: 11 30 14.5090 (172.5604542d)	Proper Motion RA: -89.8 mas/yr	V=13.5+/-0.05	Reference Frame: ICRS																							
	Alt Name1: EPIC201912552B	Dec: +07 35 18.21 (7.58839d)	Proper Motion Dec: -136.7 mas/yr	J = 9.76; H = 9.13																									
	Alt Name2: K2-18D	Equinox: J2000	Epoch of Position: 2000																										

Proposal 14682 - K2-18 b (06) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	Acquisition	(2) K2-18	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.9934 TO 0.99543 Sequence 1-4 Non-Int in K2-18 b (06)	0.833445 Secs (0.833 Secs) [==>]	[1]
	2	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees, Rounding trip Sequence 1-4 Non-Int in K2-18 b (06)	103.128633 Secs X 7 (1443.801 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[1]
	3	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees, Rounding trip Sequence 1-4 Non-Int in K2-18 b (06)	103.128633 Secs (206.257 Secs) [==>(Forward)] [==>(Reverse)]	[1]
	4	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees, Forward Sequence 1-4 Non-Int in K2-18 b (06)	103.128633 Secs (103.129 Secs) [==>]	[1]
	5	G141 Science Data	(2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees, Rounding trip Sequence 5-7 Non-Int in K2-18 b (06)	103.128633 Secs X 4 (825.029 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)]	[2]

Proposal 14682 - K2-18 b (06) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

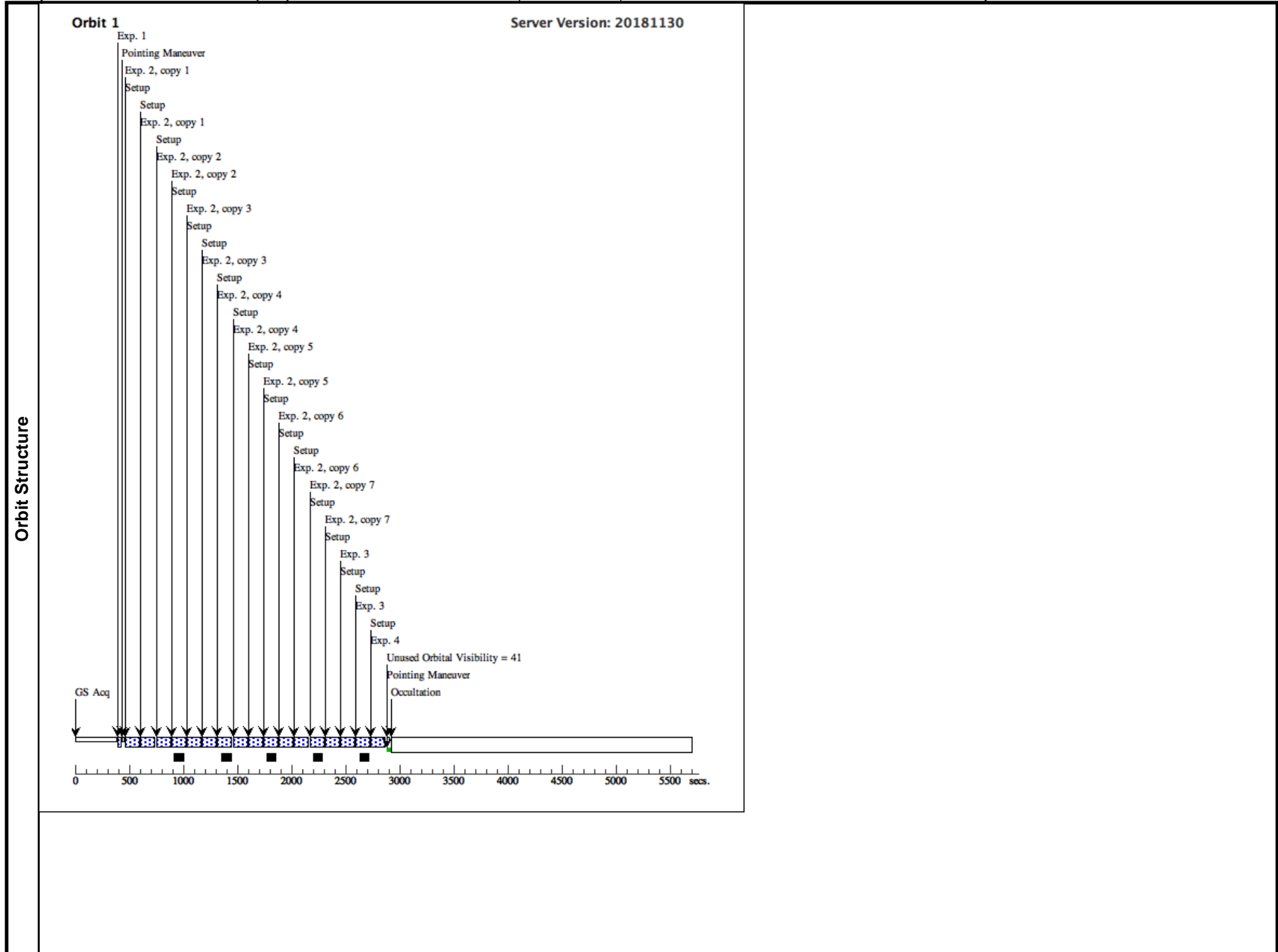
6	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Round trip; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 5-7 Non-Int in K2-18 b (06)	103.128633 Secs X 5 (1031.286 Secs)	[2]
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)]	
7	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 5-7 Non-Int in K2-18 b (06)	103.128633 Secs (103.129 Secs)	[2]
							[==>]	
8	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Round trip	Sequence 8-10 Non-Int in K2-18 b (06)	103.128633 Secs X 4 (825.029 Secs)	[3]
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)]	
9	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Round trip; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 8-10 Non-Int in K2-18 b (06)	103.128633 Secs X 5 (1031.286 Secs)	[3]
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)]	
10	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees,Forward; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 8-10 Non-Int in K2-18 b (06)	103.128633 Secs (103.129 Secs)	[3]
							[==>]	

Proposal 14682 - K2-18 b (06) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

11	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees, Round trip	Sequence 11-13 Non-Int in K2-18 b (06)	103.128633 Secs X 5 (1031.286 Secs)	[4]
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)]	
12	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees, Round trip; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 11-13 Non-Int in K2-18 b (06)	103.128633 Secs X 4 (825.029 Secs)	[4]
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)]	
13	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees, Forward; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 11-13 Non-Int in K2-18 b (06)	103.128633 Secs (103.129 Secs)	[4]
							[==>]	
14	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.1 4,90.0 Degrees, Round trip	Sequence 14-16 Non-Int in K2-18 b (06)	103.128633 Secs X 5 (1031.286 Secs)	[5]
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)]	

Proposal 14682 - K2-18 b (06) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

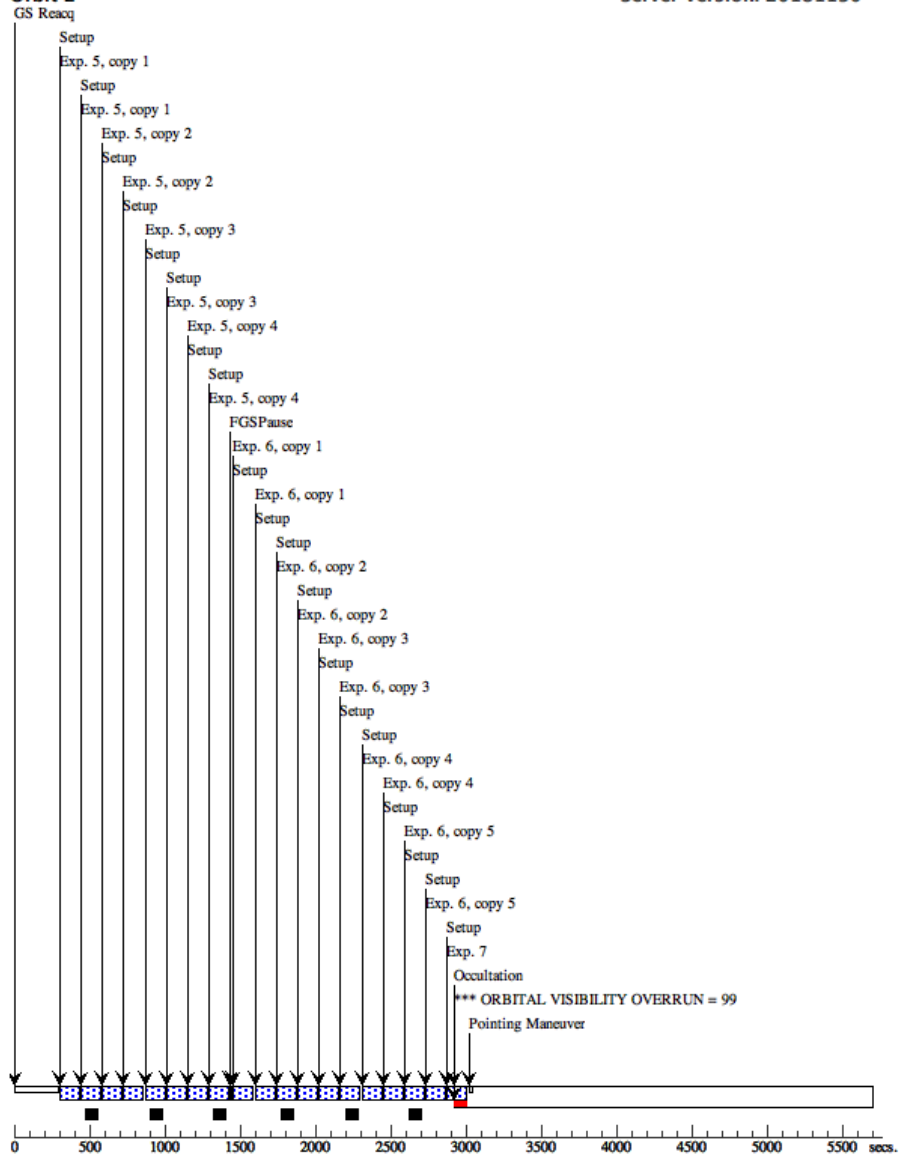
15	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Round trip; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 14-16 Non-Int in K2-18 b (06)	103.128633 Secs X 3 (618.772 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)]	[5]
16	G141 Science Data (2) K2-18	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-8; SPATIAL SCAN 0.14,90.0 Degrees,Forward; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 14-16 Non-Int in K2-18 b (06)	103.128633 Secs (103.129 Secs) [==>]	[5]



Proposal 14682 - K2-18 b (06) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 2

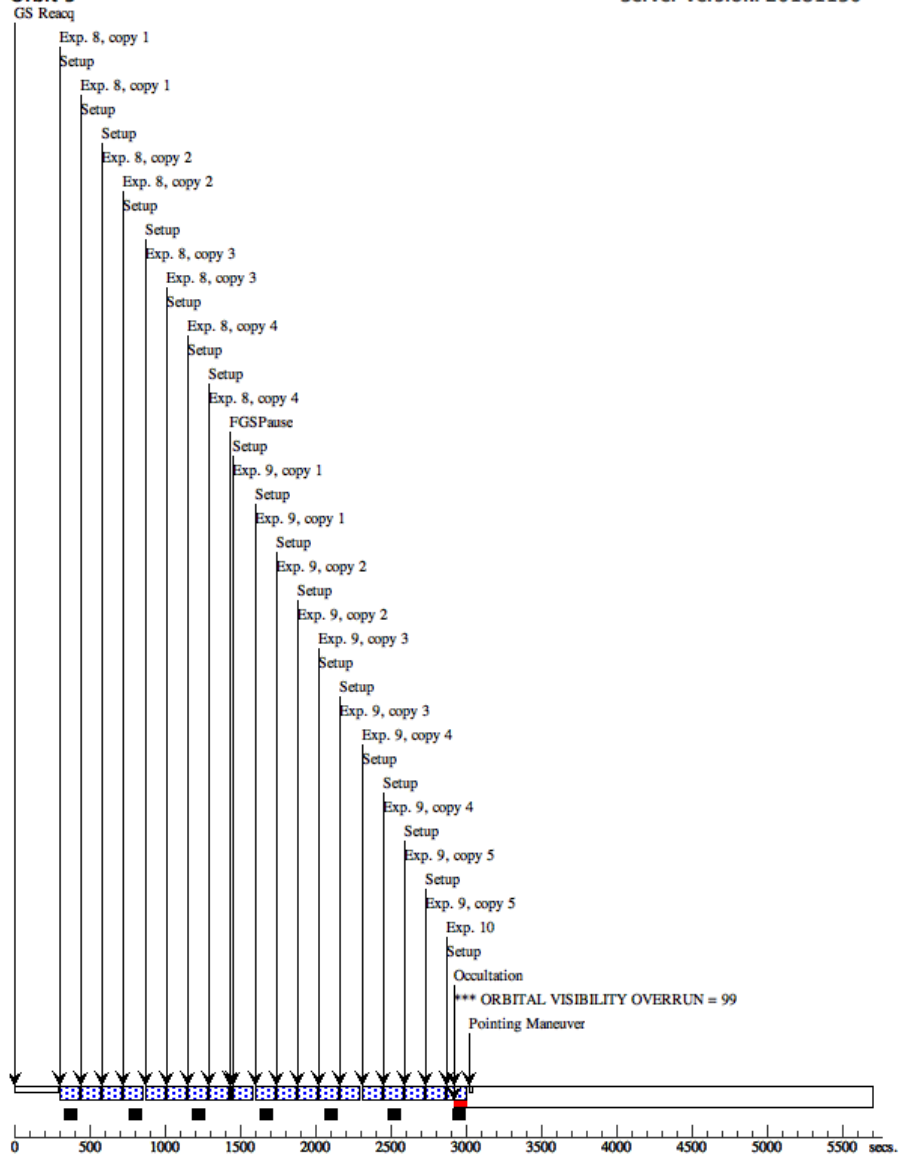
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Proposal 14682 - K2-18 b (06) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 3

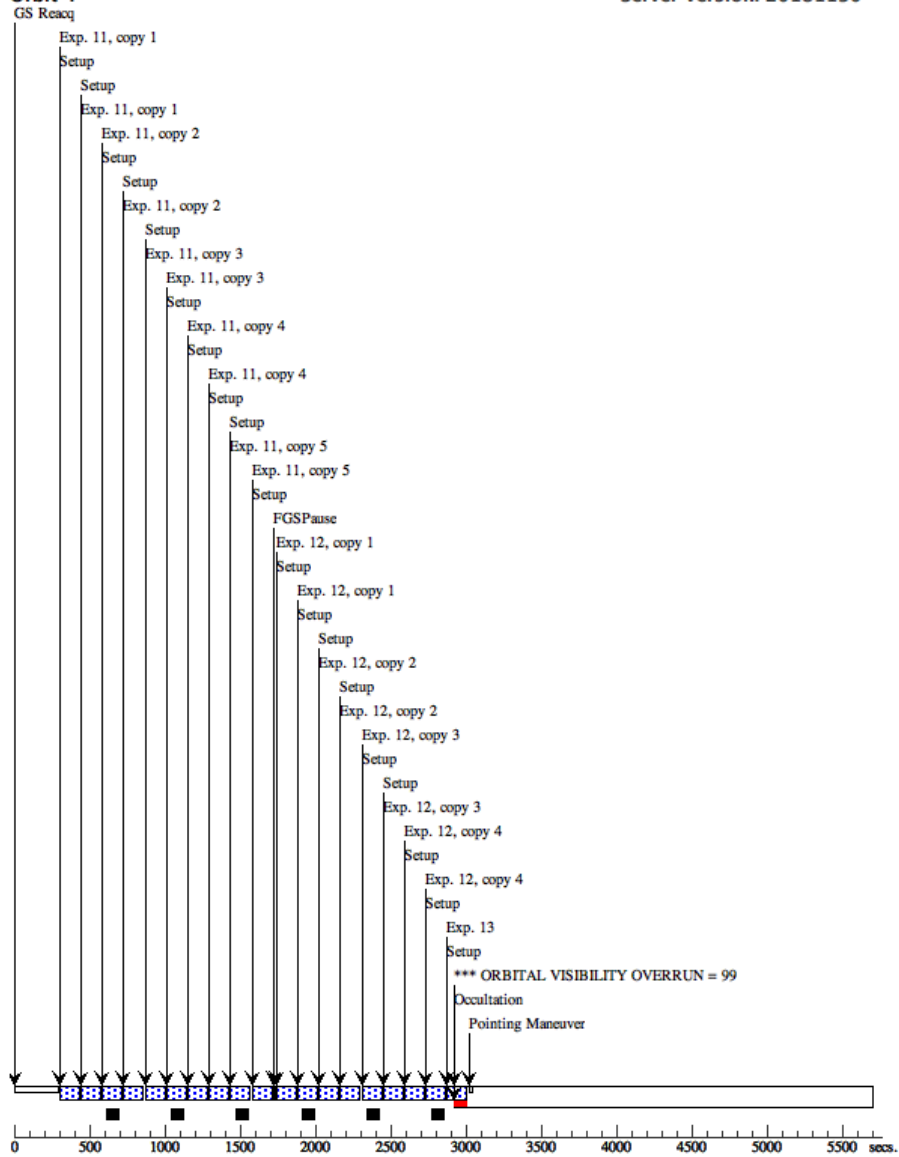
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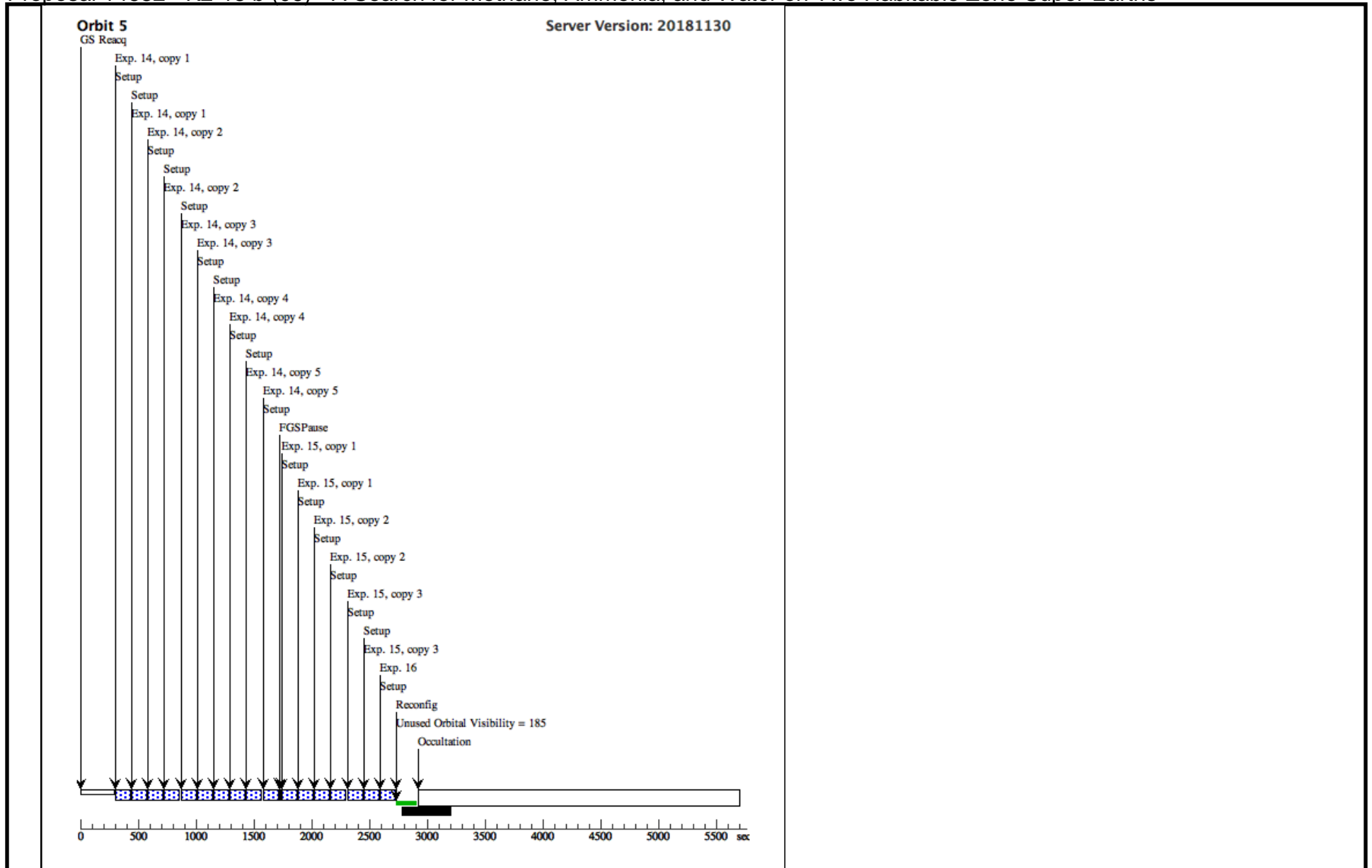
Proposal 14682 - K2-18 b (06) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 4

Server Version: 20181130



Proposal 14682 - K2-18 b (06) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (07) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:08:01 GMT 2018

Visit	<p>Proposal 14682, K2-3 d (07), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 44.5563737 D AND ZERO-PHASE HJD2457271.80073</p> <p><i>Comments: WFC3/G141 transit visit of K2-3d. It is essential for the orbits in each visit to be scheduled in a contiguous block. Eight identical visits of K2-3d will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>						
	Diagnostics	<p>(K2-3 d (07)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (07)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (07)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (07)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (07)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (07)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (07)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (07)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (07)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (07)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>					
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
		(1)	K2-3	RA: 11 29 20.3765 (172.3349021d)	Proper Motion RA: 88.300003 mas/yr	V=12.17+/-0.06	Reference Frame: ICRS
			Alt Name1:	Dec: -01 27 17.33 (-1.45481d)	Proper Motion Dec: -73.599998 mas/yr	J = 9.421 +/- 0.027; H = 8.805 +	
			EPIC201367065D	Equinox: J2000	Epoch of Position: 2000	/- 0.044	
			Alt Name2: K2-3B				
		<p><i>Comments: This object was generated by the targetselector and retrieved from the 2MASS database.</i></p> <p>Category=STAR</p> <p>Description=[M III-I]</p>					

Proposal 14682 - K2-3 d (07) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Acquisition	(1) K2-3	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.99437 TO 0.99587; GS ACQ SCENARIO BASE1B3	Sequence 1-2 Non-Int in K2-3 d (07)	0.833445 Secs (0.833 Secs)	[1]
	2	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Round trip	Sequence 1-2 Non-Int in K2-3 d (07)	103.128633 Secs X 9 (1856.315 Secs)	[1]
									[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	
	3	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Round trip	Sequence 3-5 Non-Int in K2-3 d (07)	103.128633 Secs X 4 (825.029 Secs)	[2]
								[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)]		
	4	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Round trip; SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 3-5 Non-Int in K2-3 d (07)	103.128633 Secs X 5 (1031.286 Secs)	[2]
								[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)]		

Proposal 14682 - K2-3 d (07) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

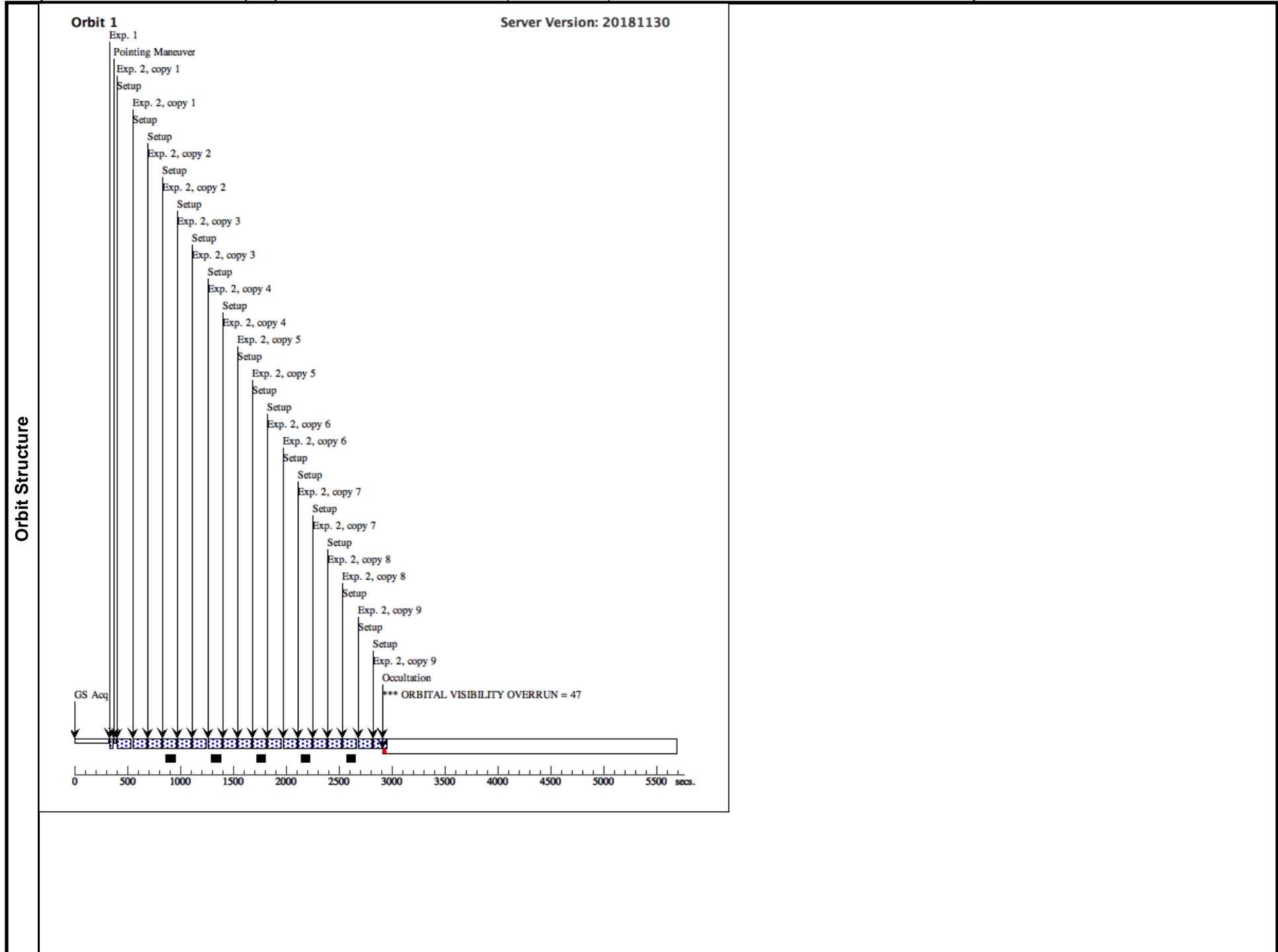
5	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward; SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 3-5 Non-Int in K2-3 d (07)	103.128633 Secs (103.129 Secs)	[2]
6	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 6-8 Non-Int in K2-3 d (07)	103.128633 Secs X 5 (1031.286 Secs)	[3]
7	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip; SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 6-8 Non-Int in K2-3 d (07)	103.128633 Secs X 4 (825.029 Secs)	[3]
8	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward; SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 6-8 Non-Int in K2-3 d (07)	103.128633 Secs (103.129 Secs)	[3]
9	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 9-11 Non-Int in K2-3 d (07)	103.128633 Secs X 5 (1031.286 Secs)	[4]

Proposal 14682 - K2-3 d (07) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

10	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees, Round trip; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 9-11 Non-Int in K2-3 d (07)	103.128633 Secs X 4 (825.029 Secs)	[4]
11	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees, Forward; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 9-11 Non-Int in K2-3 d (07)	103.128633 Secs (103.129 Secs)	[4]
12	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees, Round trip	Sequence 12-14 Non-Int in K2-3 d (07)	103.128633 Secs X 6 (1237.544 Secs)	[5]
13	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees, Round trip; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 12-14 Non-Int in K2-3 d (07)	103.128633 Secs X 3 (618.772 Secs)	[5]
14	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees, Forward; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 12-14 Non-Int in K2-3 d (07)	103.128633 Secs (103.129 Secs)	[5]

Proposal 14682 - K2-3 d (07) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

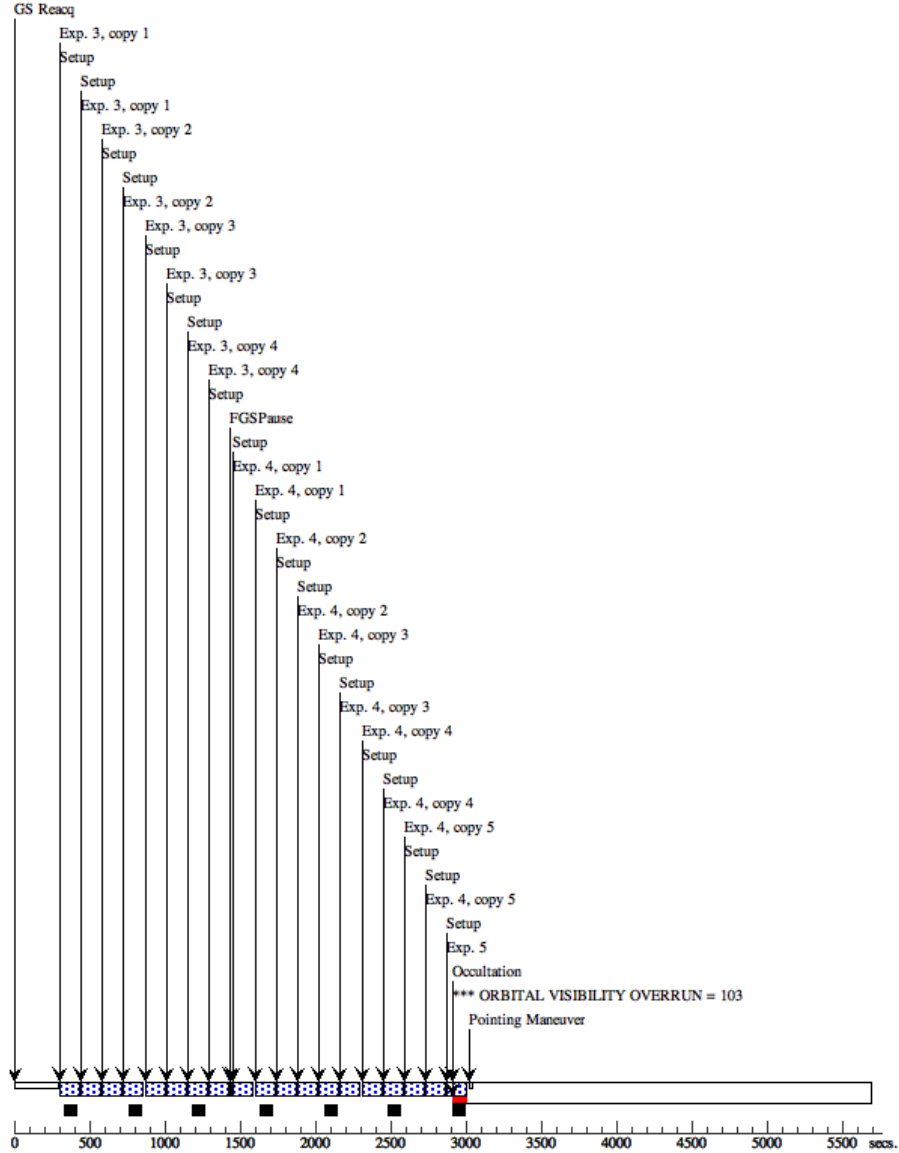
15	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees, Round trip	Sequence 15-17 Non-Int in K2-3 d (07)	103.128633 Secs X 7 (1443.801 Secs)	[6]
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	
16	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees, Round trip; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 15-17 Non-Int in K2-3 d (07)	103.128633 Secs X 2 (412.515 Secs)	[6]
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)]	
17	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees, Forward; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 15-17 Non-Int in K2-3 d (07)	103.128633 Secs (103.129 Secs)	[6]
							[==>]	



Proposal 14682 - K2-3 d (07) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 2

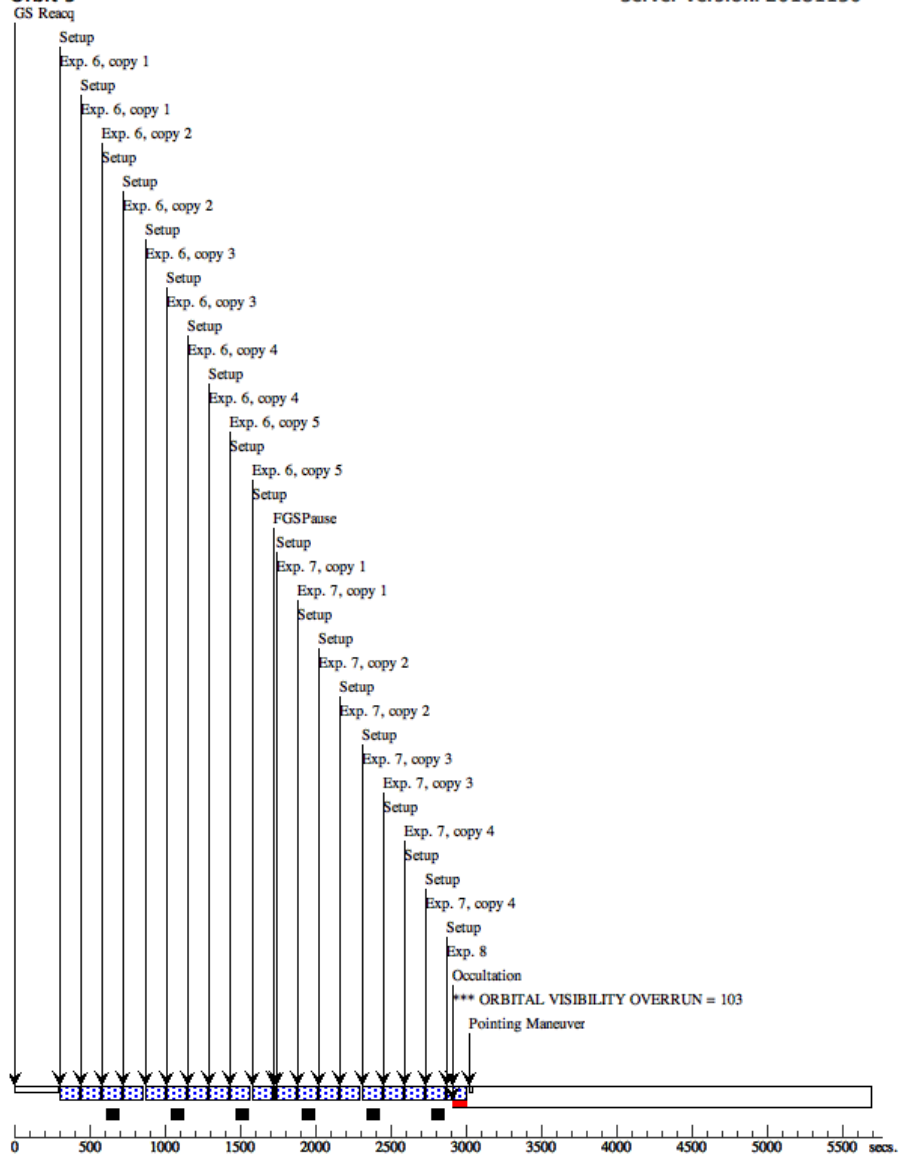
Server Version: 20181130



Proposal 14682 - K2-3 d (07) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 3

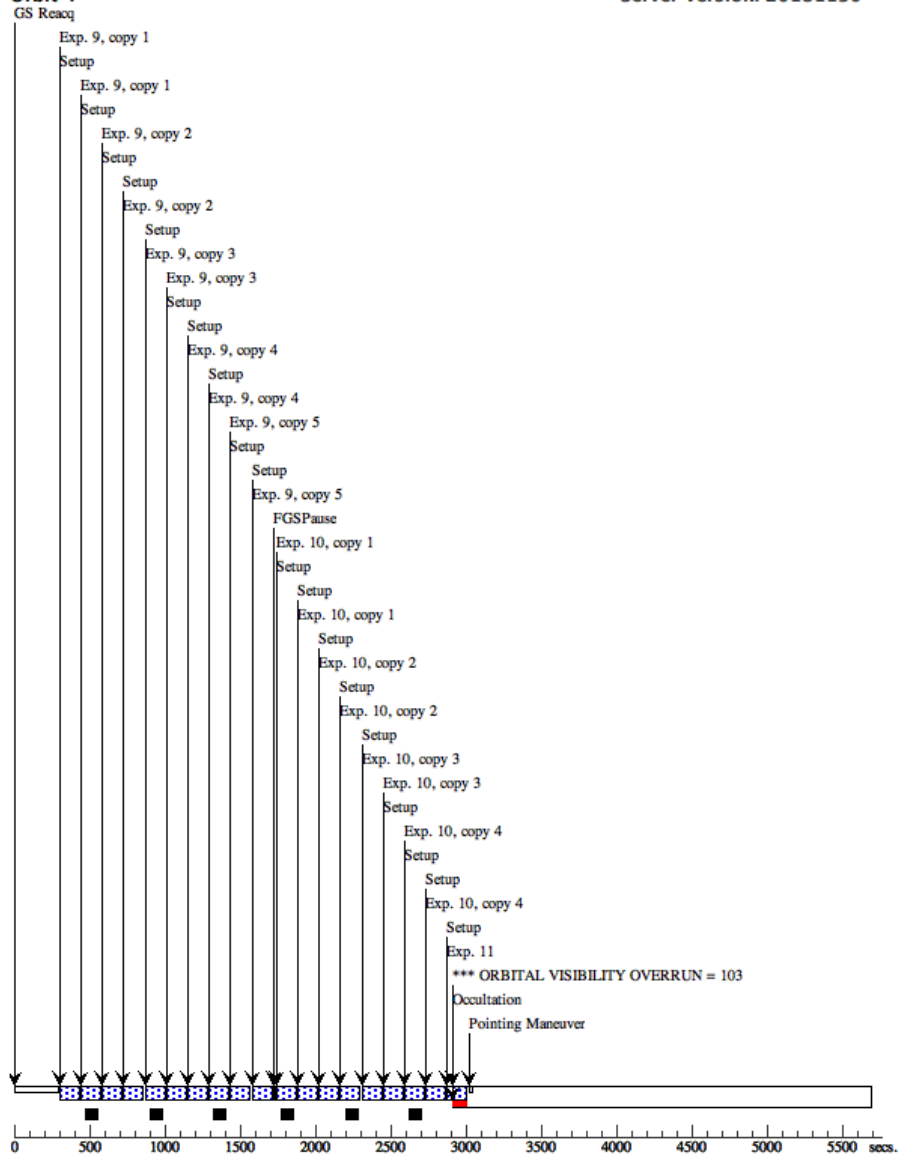
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Proposal 14682 - K2-3 d (07) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 4

Server Version: 20181130



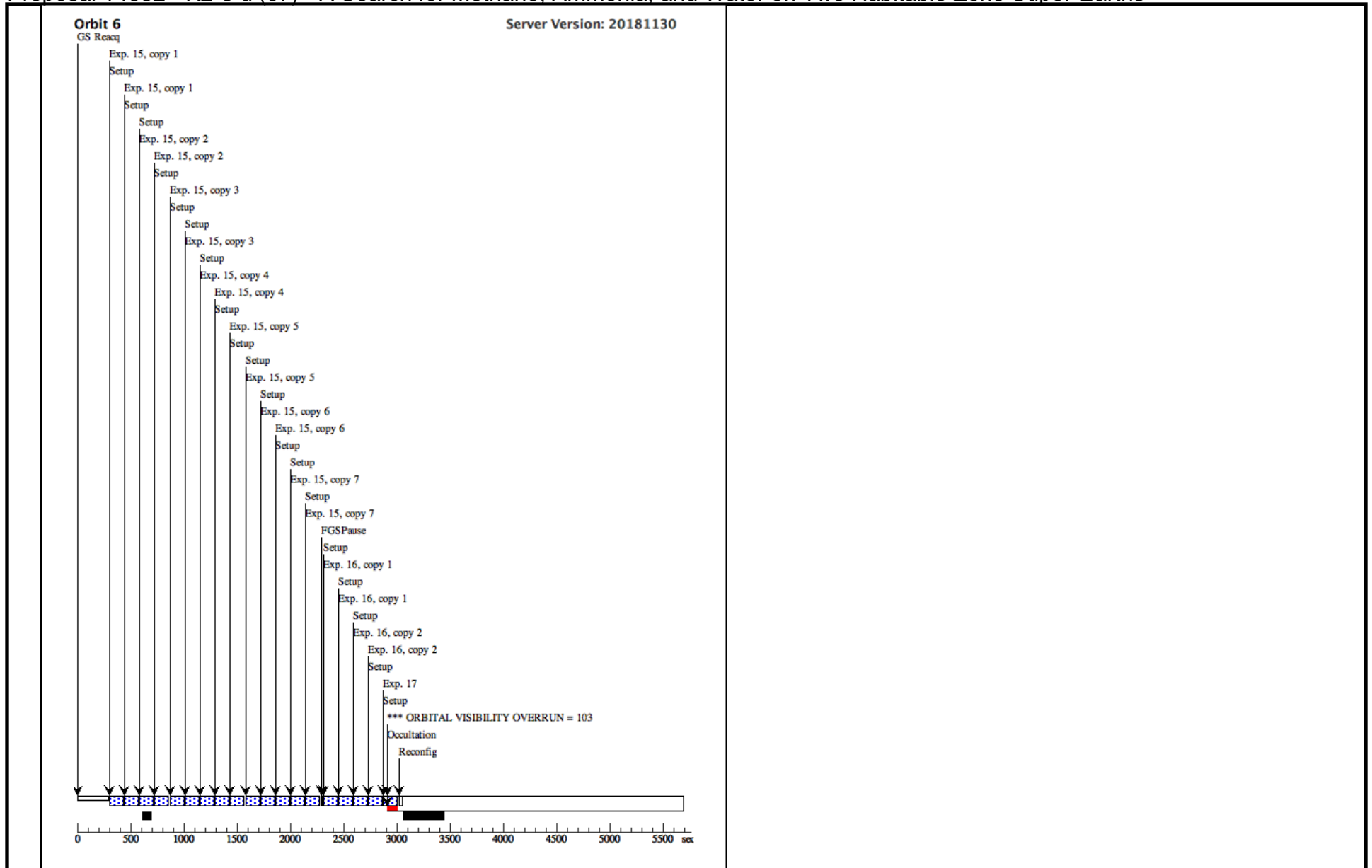
Proposal 14682 - K2-3 d (07) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 5

Server Version: 20181130



Proposal 14682 - K2-3 d (07) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (08) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:08:01 GMT 2018

Visit	<p>Proposal 14682, K2-3 d (08), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 44.5563737 D AND ZERO-PHASE HJD2457271.80073</p> <p><i>Comments: WFC3/G141 transit visit of K2-3d. It is essential for the orbits in each visit to be scheduled in a contiguous block. Eight identical visits of K2-3d will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>					
	<p>(K2-3 d (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>					
Diagnosics						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	K2-3	RA: 11 29 20.3765 (172.3349021d)	Proper Motion RA: 88.300003 mas/yr	V=12.17+/-0.06	Reference Frame: ICRS
		Alt Name1:	Dec: -01 27 17.33 (-1.45481d)	Proper Motion Dec: -73.599998 mas/yr	J = 9.421 +/- 0.027; H = 8.805 +	
		EPIC201367065D	Equinox: J2000	Epoch of Position: 2000	/- 0.044	
		Alt Name2: K2-3B				
	<p><i>Comments: This object was generated by the targetselector and retrieved from the 2MASS database.</i></p> <p>Category=STAR</p> <p>Description=[M III-I]</p>					

Proposal 14682 - K2-3 d (08) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Acquisition	(1) K2-3	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.99437 TO 0.99587; GS ACQ SCENARIO SINGLE	Sequence 1-2 Non-Int in K2-3 d (08)	0.833445 Secs (0.833 Secs)	[1]
	2	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Round trip	Sequence 1-2 Non-Int in K2-3 d (08)	103.128633 Secs X 6 (1237.544 Secs)	[1]
									[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	
	3	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Round trip	Sequence 3-4 Non-Int in K2-3 d (08)	103.128633 Secs X 8 (1650.058 Secs)	[2]
								[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)]		
4	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Forward	Sequence 3-4 Non-Int in K2-3 d (08)	103.128633 Secs (103.129 Secs)	[2]	
								[==>]		

Proposal 14682 - K2-3 d (08) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

5	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 5-6 Non-Int in K2-3 d (08)	103.128633 Secs X 9 (1856.315 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[3]
6	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 5-6 Non-Int in K2-3 d (08)	103.128633 Secs (103.129 Secs)	[==>]	[3]
7	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 7-8 Non-Int in K2-3 d (08)	103.128633 Secs X 9 (1856.315 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[4]

Proposal 14682 - K2-3 d (08) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

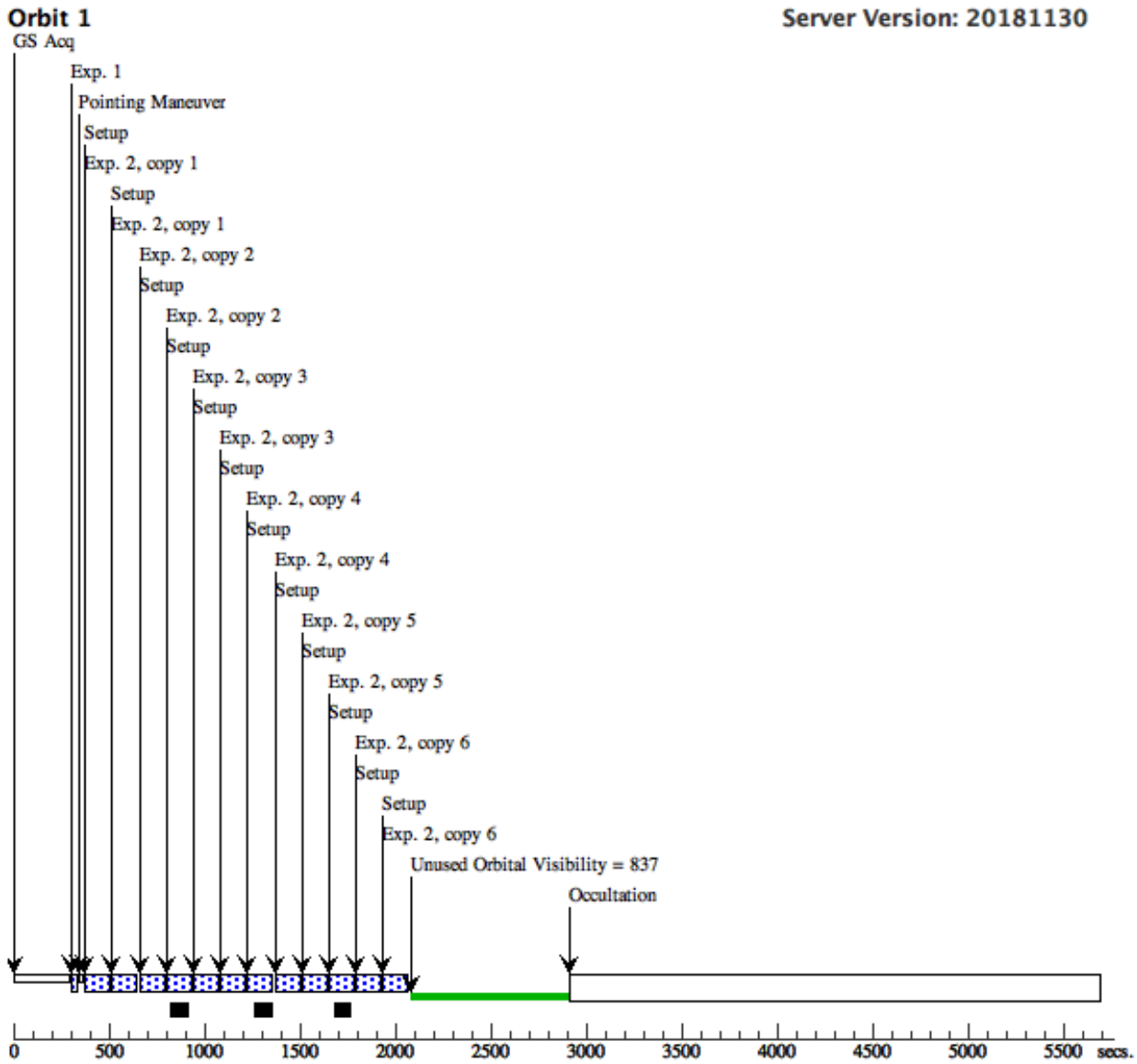
8	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 7-8 Non-Int in K2-3 d (08)	103.128633 Secs (103.129 Secs)	[4]
9	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 9-10 Non-Int in K2-3 d (08)	103.128633 Secs X 9 (1856.315 Secs)	[5]
10	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 9-10 Non-Int in K2-3 d (08)	103.128633 Secs (103.129 Secs)	[5]

Proposal 14682 - K2-3 d (08) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

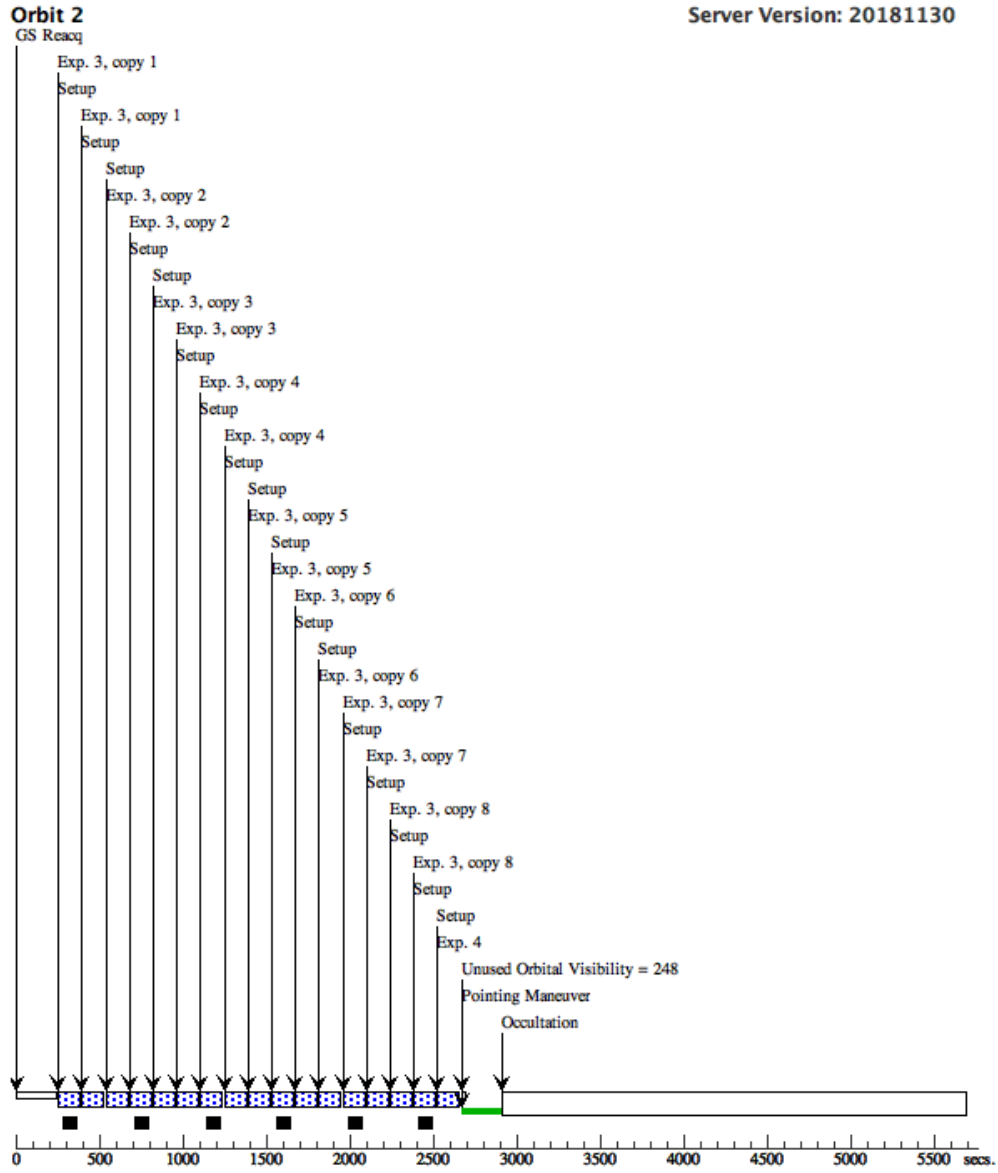
11	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Roun d trip	Sequence 11-12 Non -Int in K2-3 d (08)	103.128633 Secs X 9 (1856.315 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[6]
12	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forw ard	Sequence 11-12 Non -Int in K2-3 d (08)	103.128633 Secs (103.129 Secs)	[==>]	[6]

Server Version: 20181130

Orbit Structure



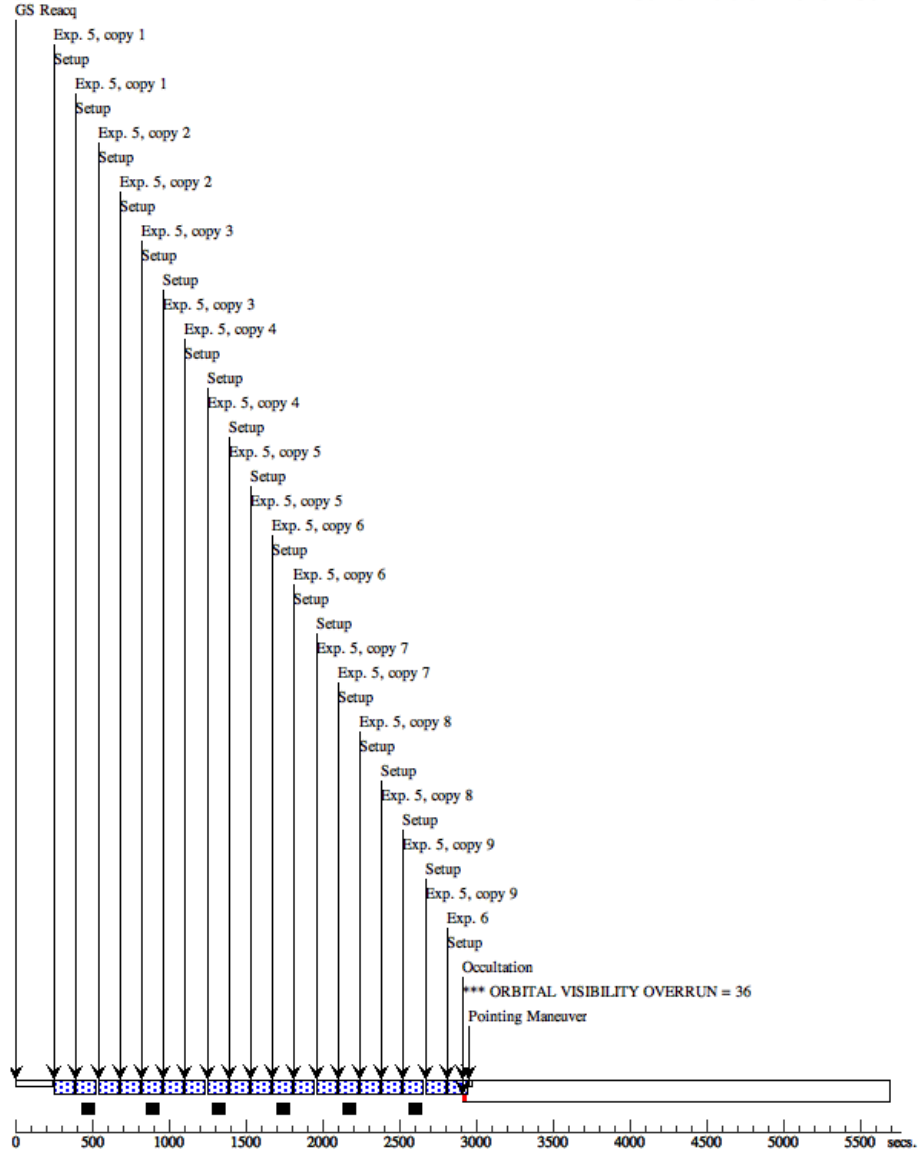
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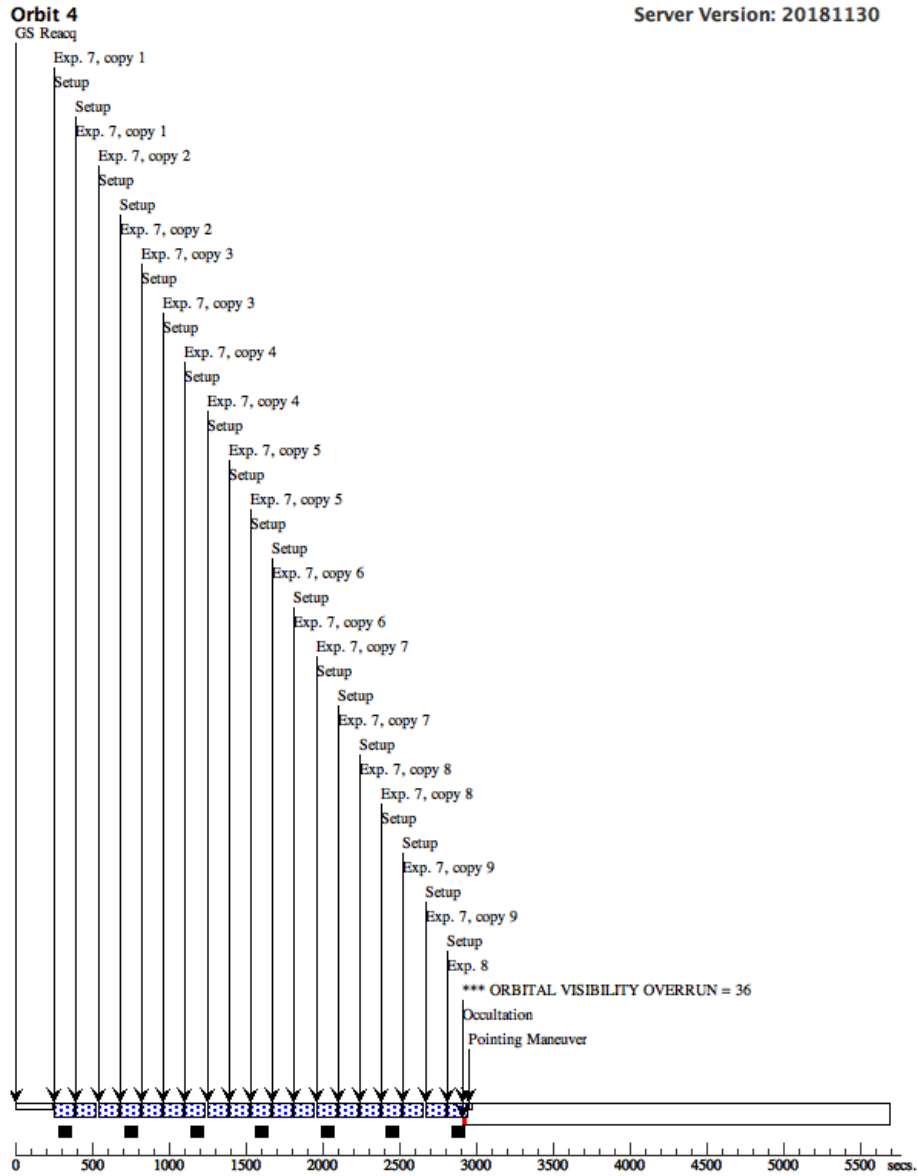
Proposal 14682 - K2-3 d (08) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 3

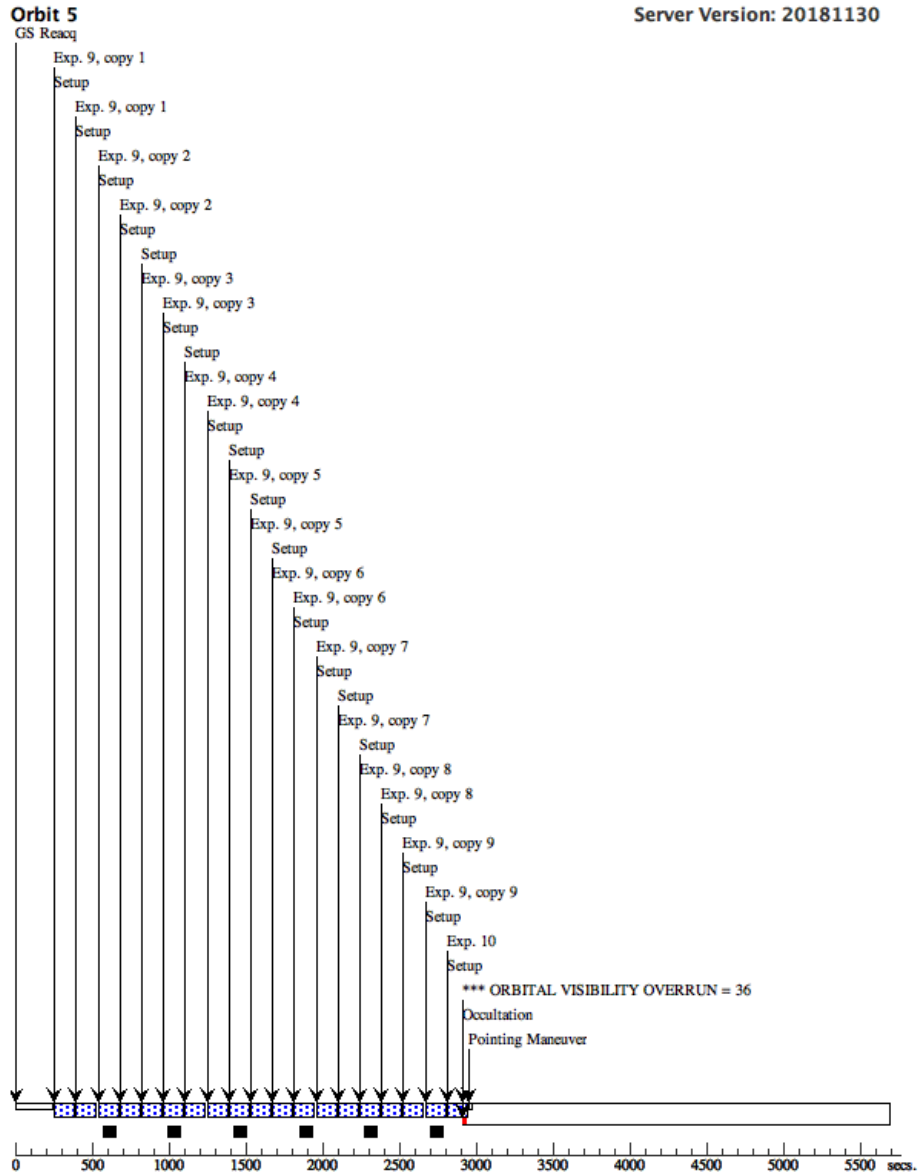
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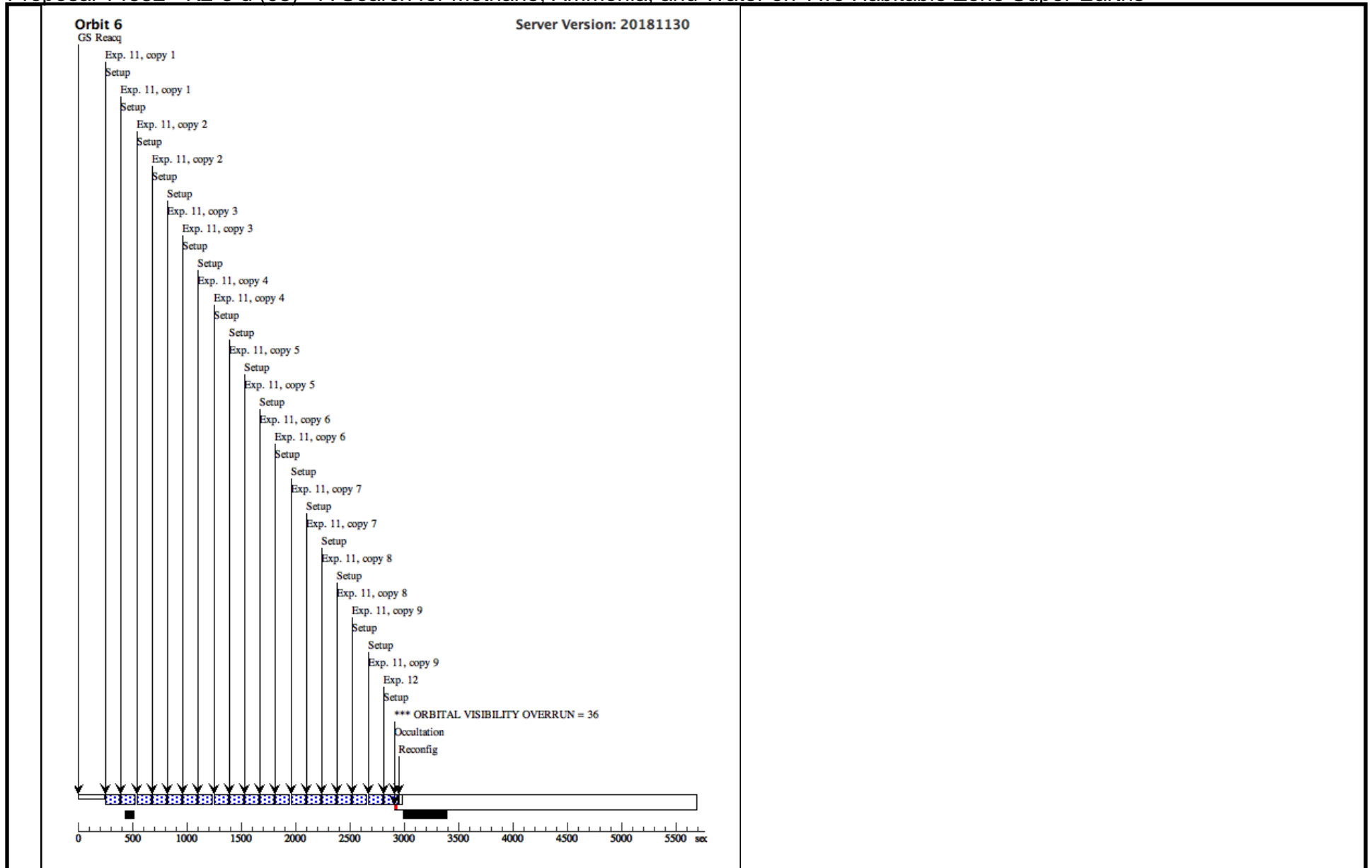
Proposal 14682 - K2-3 d (08) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (08) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (08) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (09) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:08:01 GMT 2018

Visit	<p>Proposal 14682, K2-3 d (09), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 44.5563737 D AND ZERO-PHASE HJD2457271.80073</p> <p><i>Comments: WFC3/G141 transit visit of K2-3d. It is essential for the orbits in each visit to be scheduled in a contiguous block. Eight identical visits of K2-3d will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>					
	Diagnostics	(K2-3 d (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN				
(K2-3 d (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN						
(K2-3 d (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN						
(K2-3 d (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN						
(K2-3 d (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN						
(K2-3 d (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	K2-3	RA: 11 29 20.3765 (172.3349021d)	Proper Motion RA: 88.300003 mas/yr	V=12.17+/-0.06	Reference Frame: ICRS
		Alt Name1:	Dec: -01 27 17.33 (-1.45481d)	Proper Motion Dec: -73.599998 mas/yr	J = 9.421 +/- 0.027; H = 8.805 +	
		EPIC201367065D	Equinox: J2000	Epoch of Position: 2000	/- 0.044	
		Alt Name2: K2-3B				
<p><i>Comments: This object was generated by the targetselector and retrieved from the 2MASS database.</i></p> <p>Category=STAR</p> <p>Description=[M III-I]</p>						

Proposal 14682 - K2-3 d (09) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Acquisition	(1) K2-3	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.99437 TO 0.99587; GS ACQ SCENARIO BASE1B3	Sequence 1-2 Non-Int in K2-3 d (09)	0.833445 Secs (0.833 Secs)	[1]
	2	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Rounded trip	Sequence 1-2 Non-Int in K2-3 d (09)	103.128633 Secs X 9 (1856.315 Secs)	[1]
	3	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Rounded trip	Sequence 3-4 Non-Int in K2-3 d (09)	103.128633 Secs X 9 (1856.315 Secs)	[2]

Proposal 14682 - K2-3 d (09) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

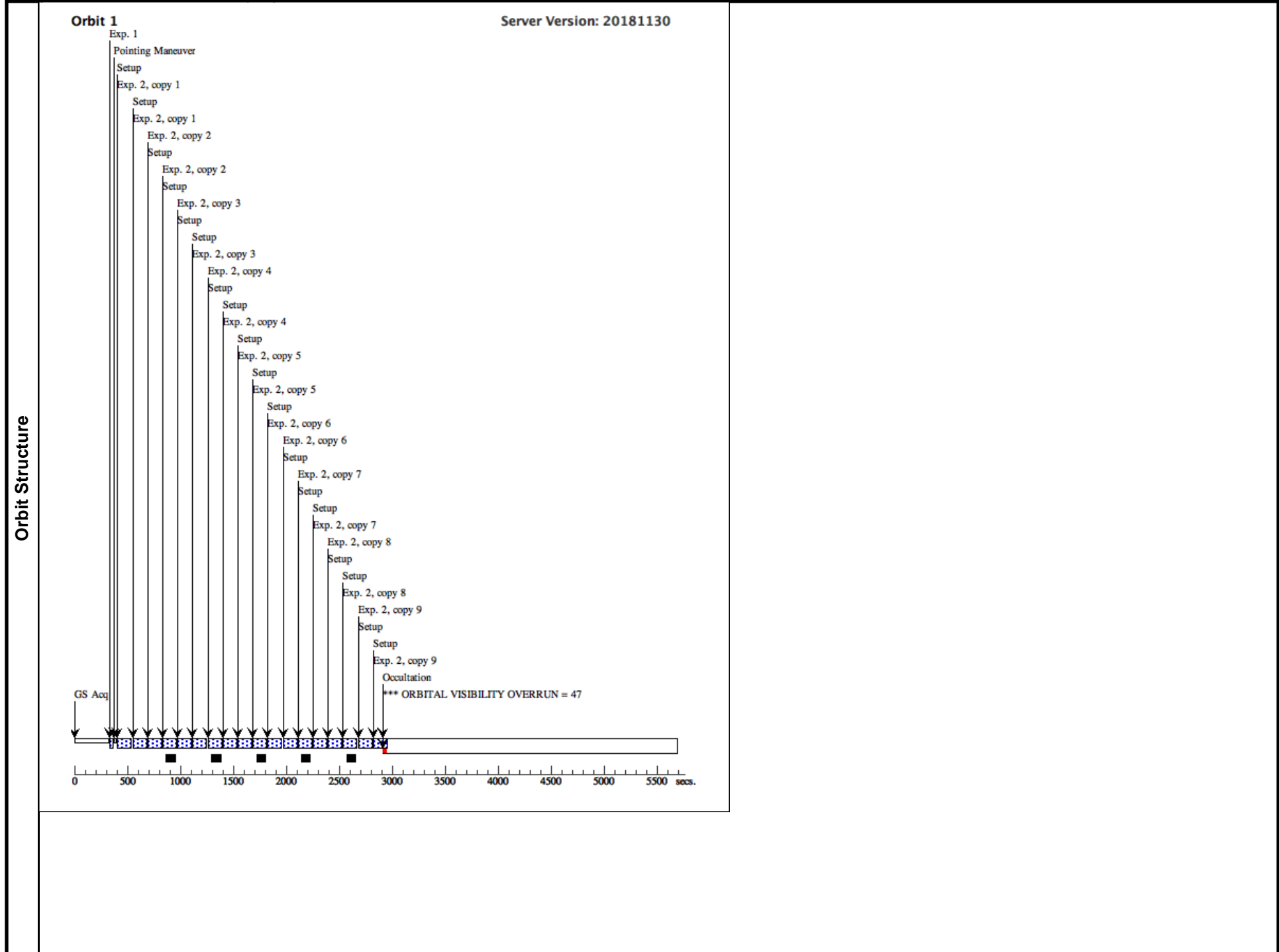
4	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 3-4 Non-Int in K2-3 d (09)	103.128633 Secs (103.129 Secs) [==>]	[2]
5	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 5-6 Non-Int in K2-3 d (09)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	
6	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 5-6 Non-Int in K2-3 d (09)	103.128633 Secs (103.129 Secs) [==>]	[3]

Proposal 14682 - K2-3 d (09) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

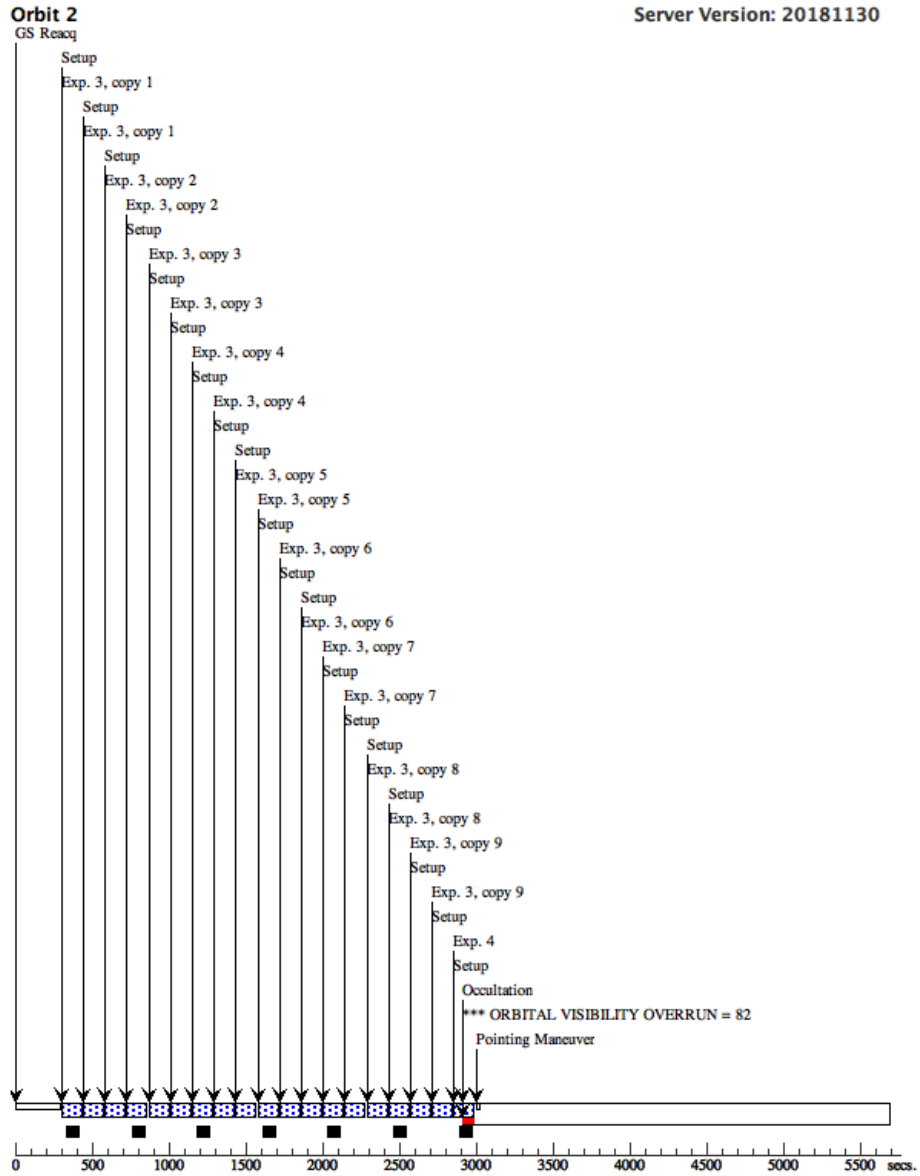
7	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 7-8 Non-Int in K2-3 d (09)	103.128633 Secs X 9 (1856.315 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[4]
8	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 7-8 Non-Int in K2-3 d (09)	103.128633 Secs (103.129 Secs)	[==>]	[4]
9	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 9-10 Non-Int in K2-3 d (09)	103.128633 Secs X 9 (1856.315 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[5]

Proposal 14682 - K2-3 d (09) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

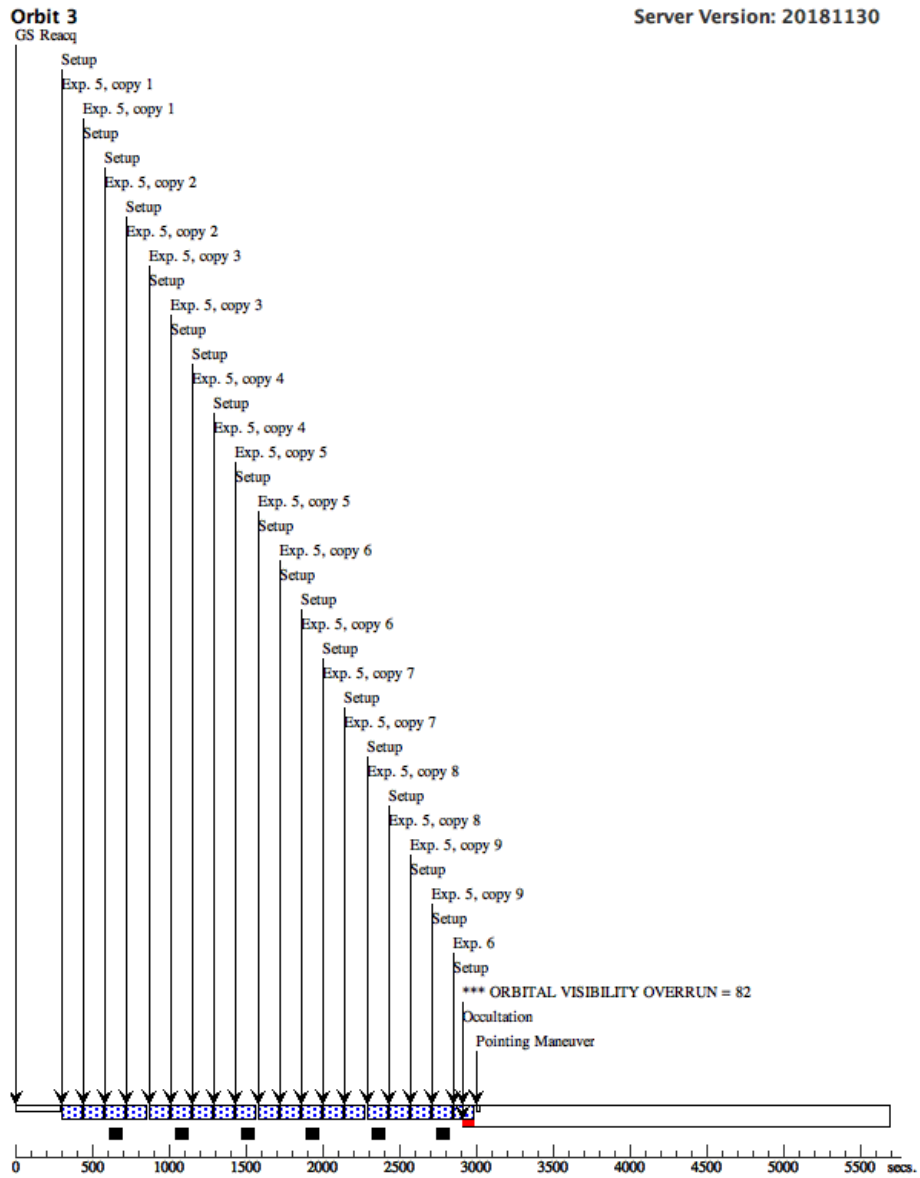
10	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 9-10 Non-Int in K2-3 d (09)	103.128633 Secs (103.129 Secs) [==>]	[5]
11	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 11-12 Non-Int in K2-3 d (09)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[6]
12	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 11-12 Non-Int in K2-3 d (09)	103.128633 Secs (103.129 Secs) [==>]	[6]



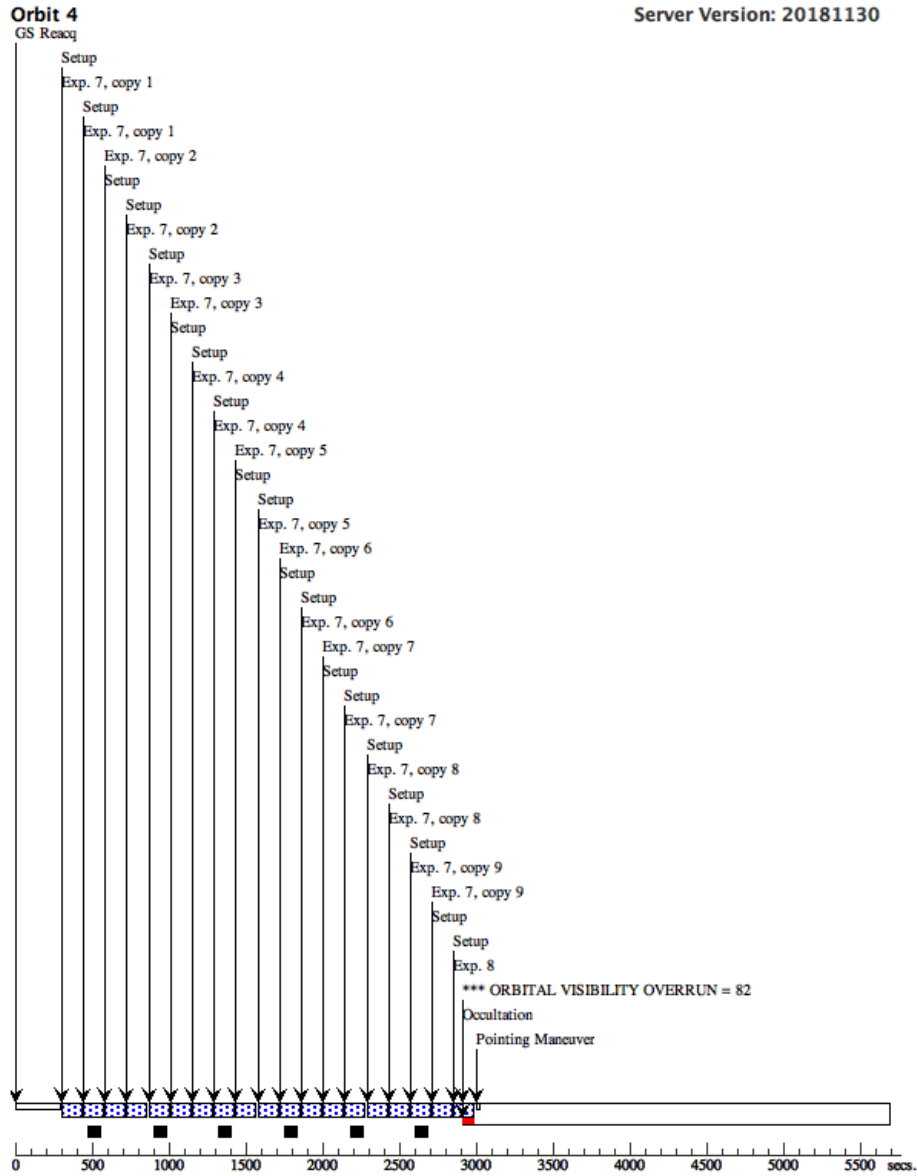
Proposal 14682 - K2-3 d (09) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



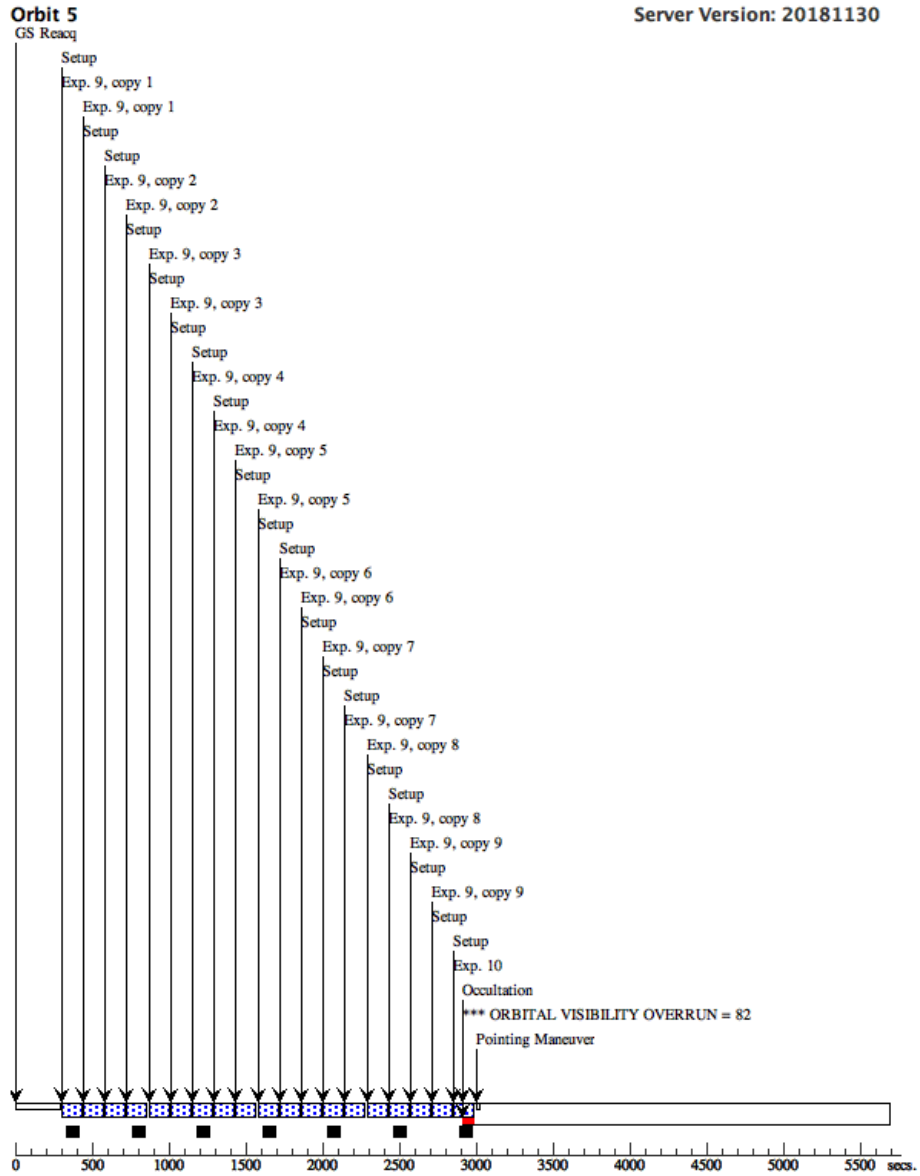
Proposal 14682 - K2-3 d (09) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



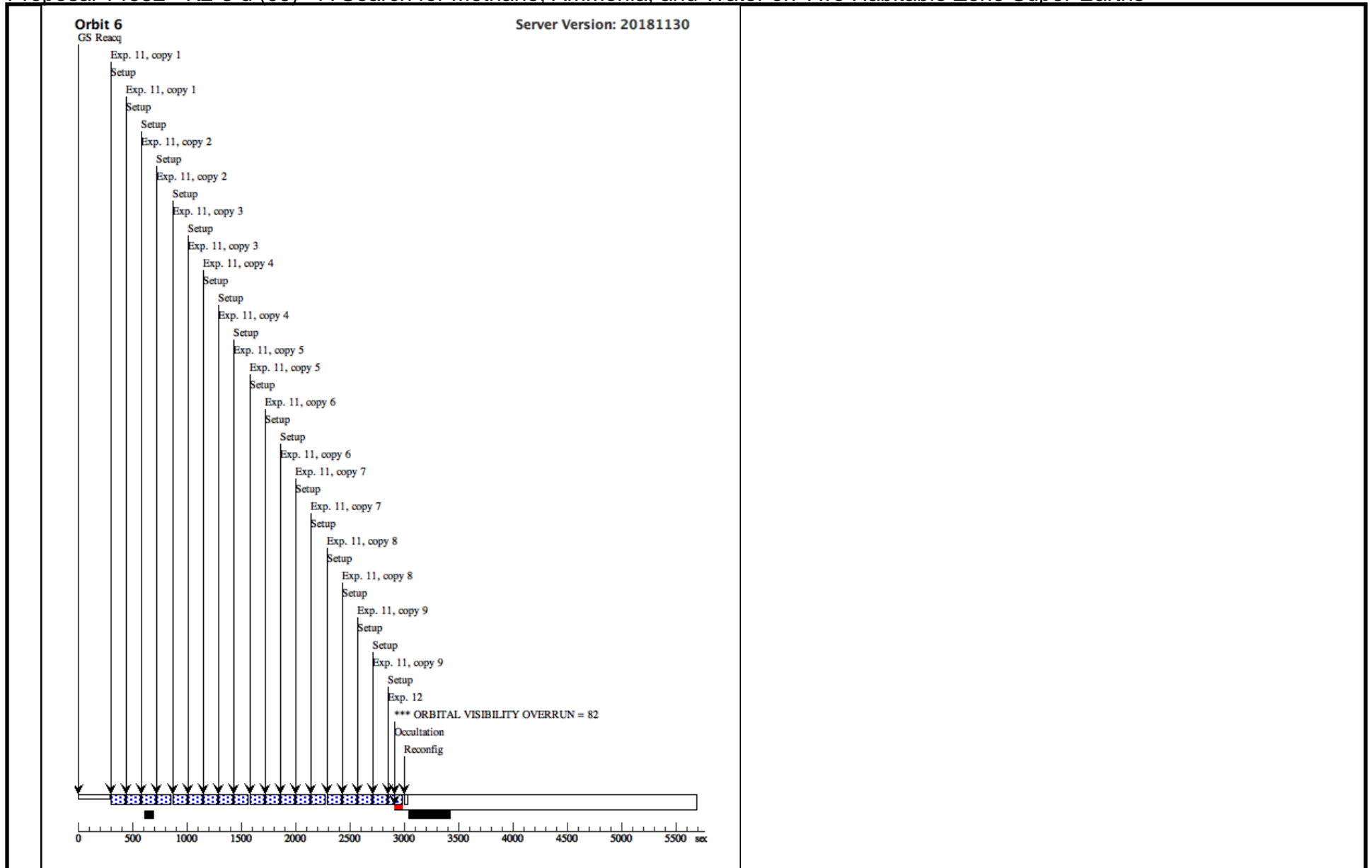
Proposal 14682 - K2-3 d (09) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (09) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (09) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (10) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:08:02 GMT 2018

Visit	<p>Proposal 14682, K2-3 d (10), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 44.5563737 D AND ZERO-PHASE HJD2457271.80073</p> <p><i>Comments: WFC3/G141 transit visit of K2-3d. It is essential for the orbits in each visit to be scheduled in a contiguous block. Eight identical visits of K2-3d will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>																													
	Diagnostics	(K2-3 d (10)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN																												
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(K2-3 d (10)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN																														
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>K2-3</td> <td>RA: 11 29 20.3765 (172.3349021d)</td> <td>Proper Motion RA: 88.300003 mas/yr</td> <td>V=12.17+/-0.06</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td></td> <td>Alt Name1: EPIC201367065D</td> <td>Dec: -01 27 17.33 (-1.45481d) Equinox: J2000</td> <td>Proper Motion Dec: -73.599998 mas/yr Epoch of Position: 2000</td> <td>J = 9.421 +/- 0.027; H = 8.805 + /- 0.044</td> <td></td> </tr> <tr> <td></td> <td>Alt Name2: K2-3B</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the 2MASS database.</i></p> <p>Category=STAR</p> <p>Description=[M III-I]</p>						#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	K2-3	RA: 11 29 20.3765 (172.3349021d)	Proper Motion RA: 88.300003 mas/yr	V=12.17+/-0.06	Reference Frame: ICRS		Alt Name1: EPIC201367065D	Dec: -01 27 17.33 (-1.45481d) Equinox: J2000	Proper Motion Dec: -73.599998 mas/yr Epoch of Position: 2000	J = 9.421 +/- 0.027; H = 8.805 + /- 0.044			Alt Name2: K2-3B				
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																								
(1)	K2-3	RA: 11 29 20.3765 (172.3349021d)	Proper Motion RA: 88.300003 mas/yr	V=12.17+/-0.06	Reference Frame: ICRS																									
	Alt Name1: EPIC201367065D	Dec: -01 27 17.33 (-1.45481d) Equinox: J2000	Proper Motion Dec: -73.599998 mas/yr Epoch of Position: 2000	J = 9.421 +/- 0.027; H = 8.805 + /- 0.044																										
	Alt Name2: K2-3B																													

Proposal 14682 - K2-3 d (10) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(1) K2-3	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.99437 TO 0.99587	Sequence 1-2 Non-Int in K2-3 d (10)	0.833445 Secs (0.833 Secs) [==>]	[1]
2	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees, Round trip	Sequence 1-2 Non-Int in K2-3 d (10)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[1]
3	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees, Round trip	Sequence 3-4 Non-Int in K2-3 d (10)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[2]

Exposures

Proposal 14682 - K2-3 d (10) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

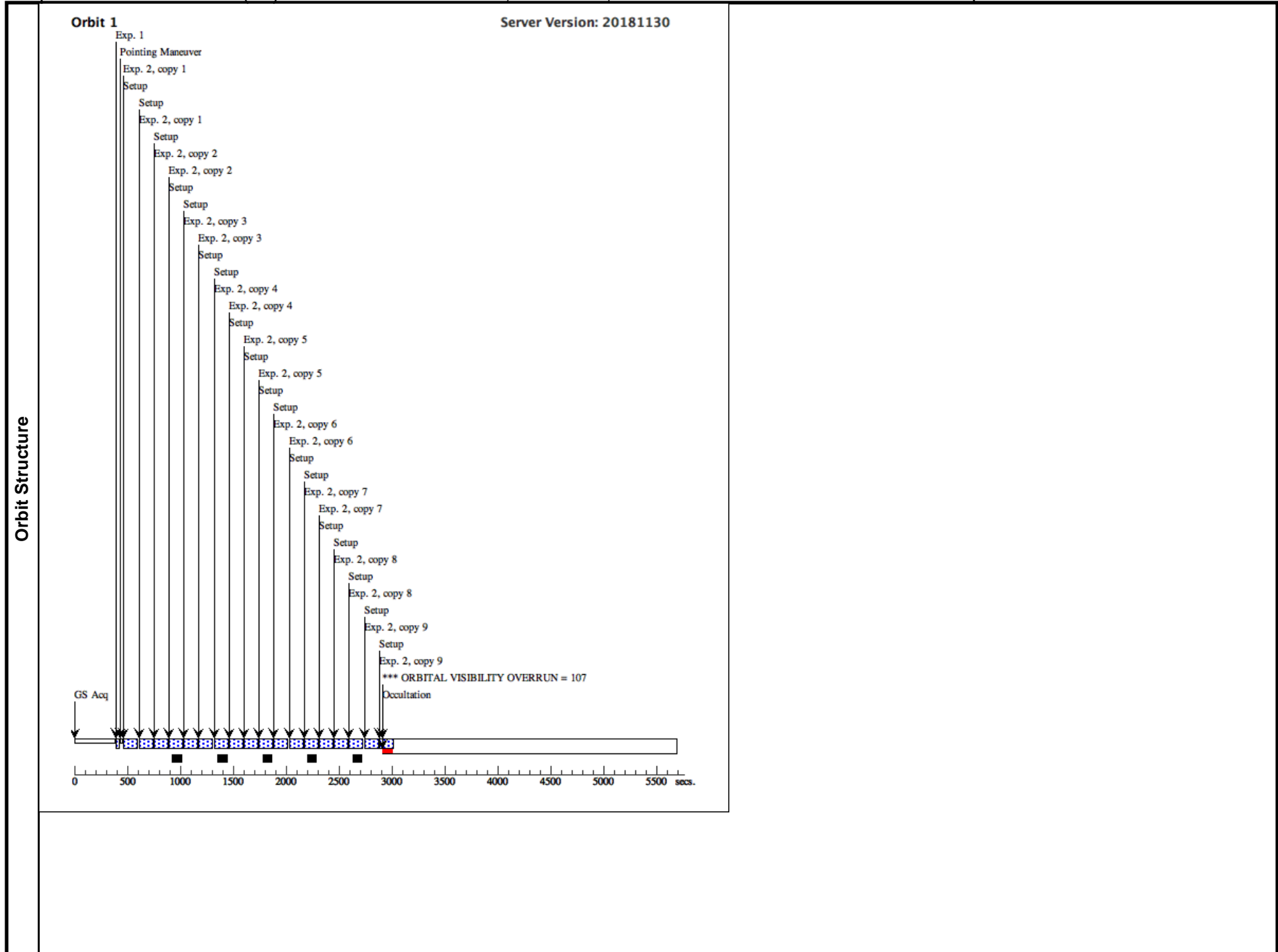
4	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 3-4 Non-Int in K2-3 d (10)	103.128633 Secs (103.129 Secs) [==>]	[2]
5	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 5-6 Non-Int in K2-3 d (10)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[3]
6	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 5-6 Non-Int in K2-3 d (10)	103.128633 Secs (103.129 Secs) [==>]	[3]

Proposal 14682 - K2-3 d (10) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

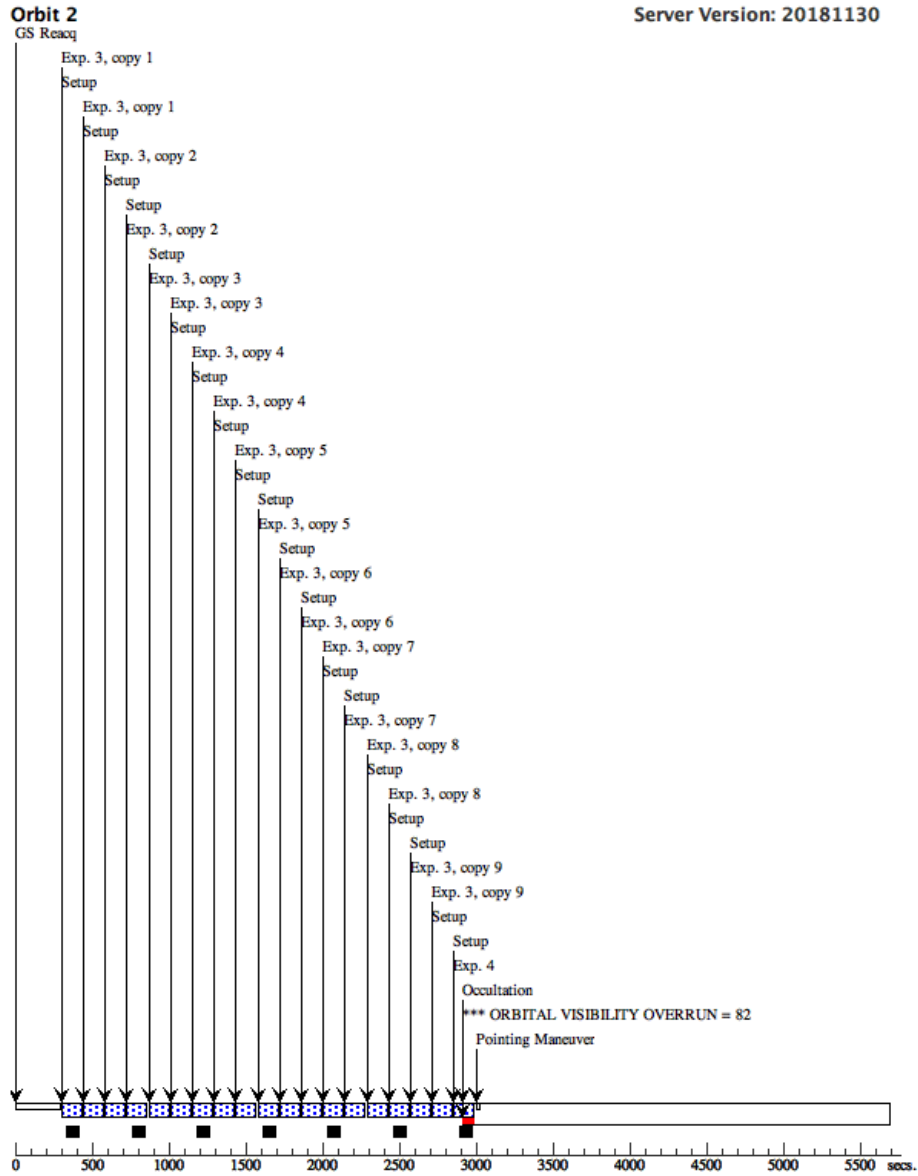
7	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 7-8 Non-Int in K2-3 d (10)	103.128633 Secs X 9 (1856.315 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[4]
8	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 7-8 Non-Int in K2-3 d (10)	103.128633 Secs (103.129 Secs)	[==>]	[4]
9	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 9-10 Non-Int in K2-3 d (10)	103.128633 Secs X 9 (1856.315 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[5]

Proposal 14682 - K2-3 d (10) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

10	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 9-10 Non-Int in K2-3 d (10)	103.128633 Secs (103.129 Secs) [==>]	[5]
11	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 11-12 Non-Int in K2-3 d (10)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[6]
12	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 11-12 Non-Int in K2-3 d (10)	103.128633 Secs (103.129 Secs) [==>]	[6]



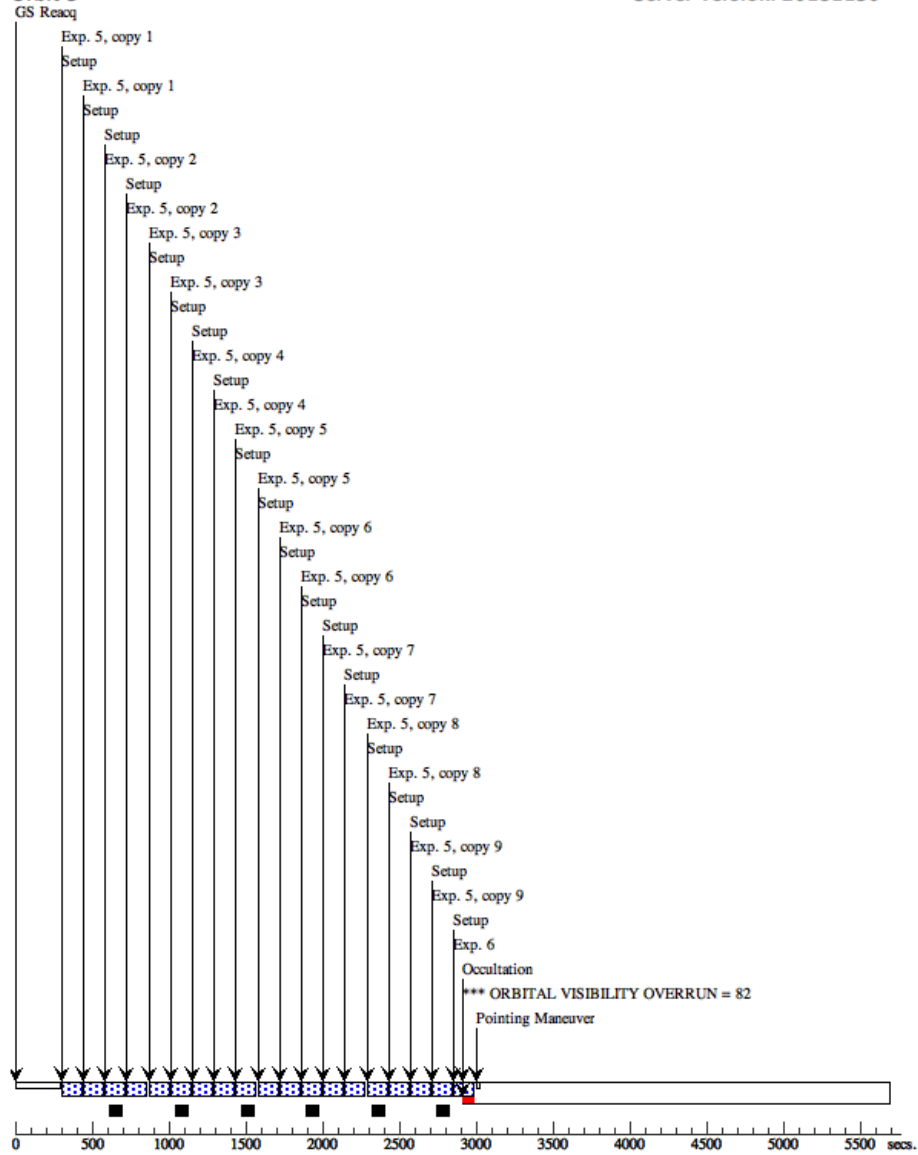
Proposal 14682 - K2-3 d (10) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (10) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 3

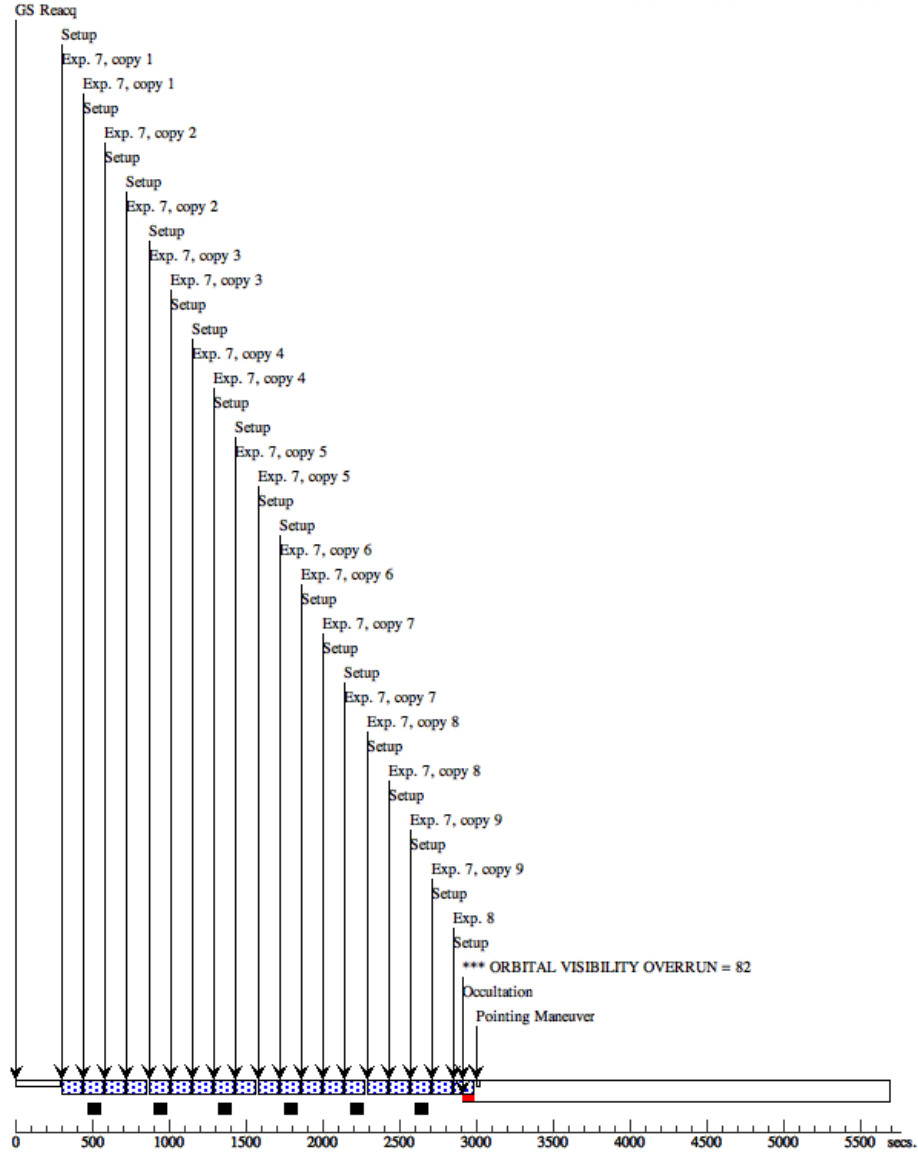
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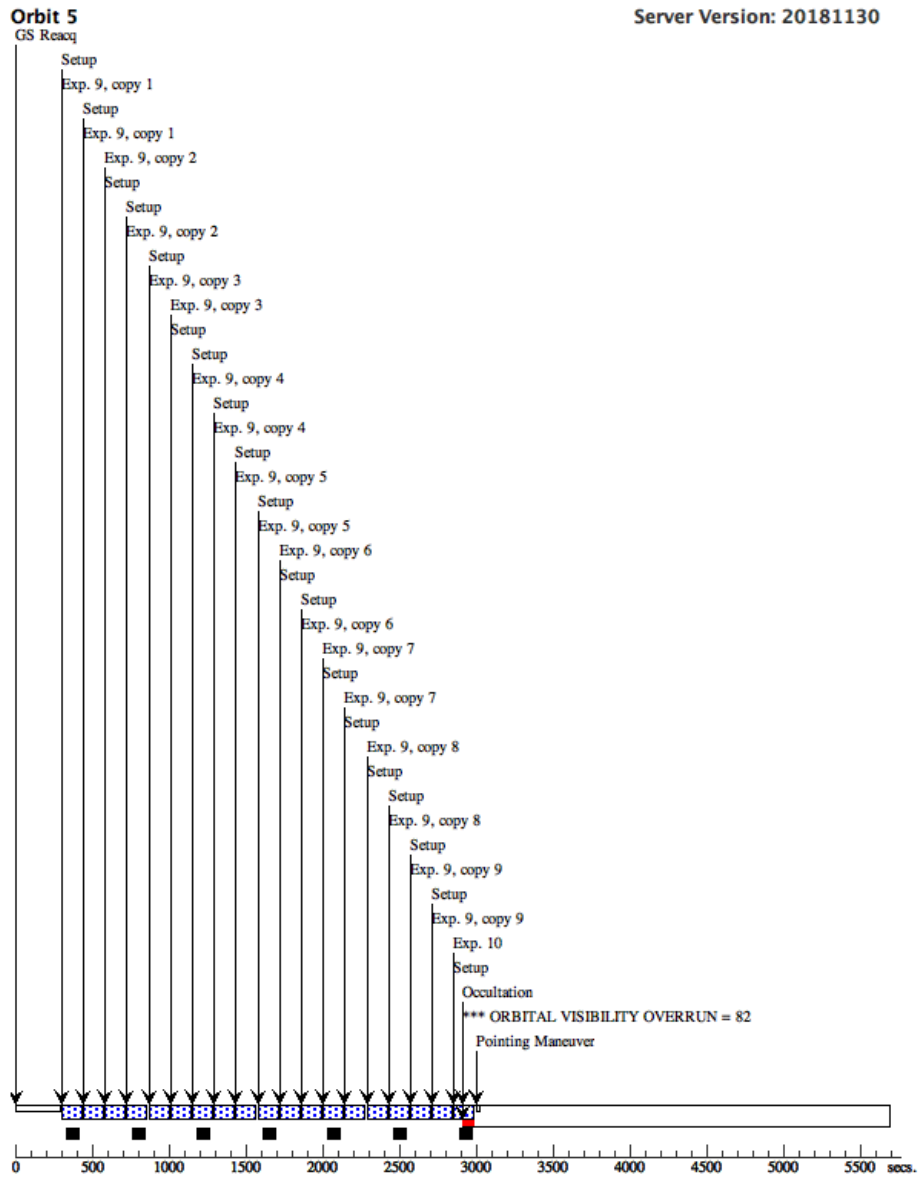
Proposal 14682 - K2-3 d (10) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 4

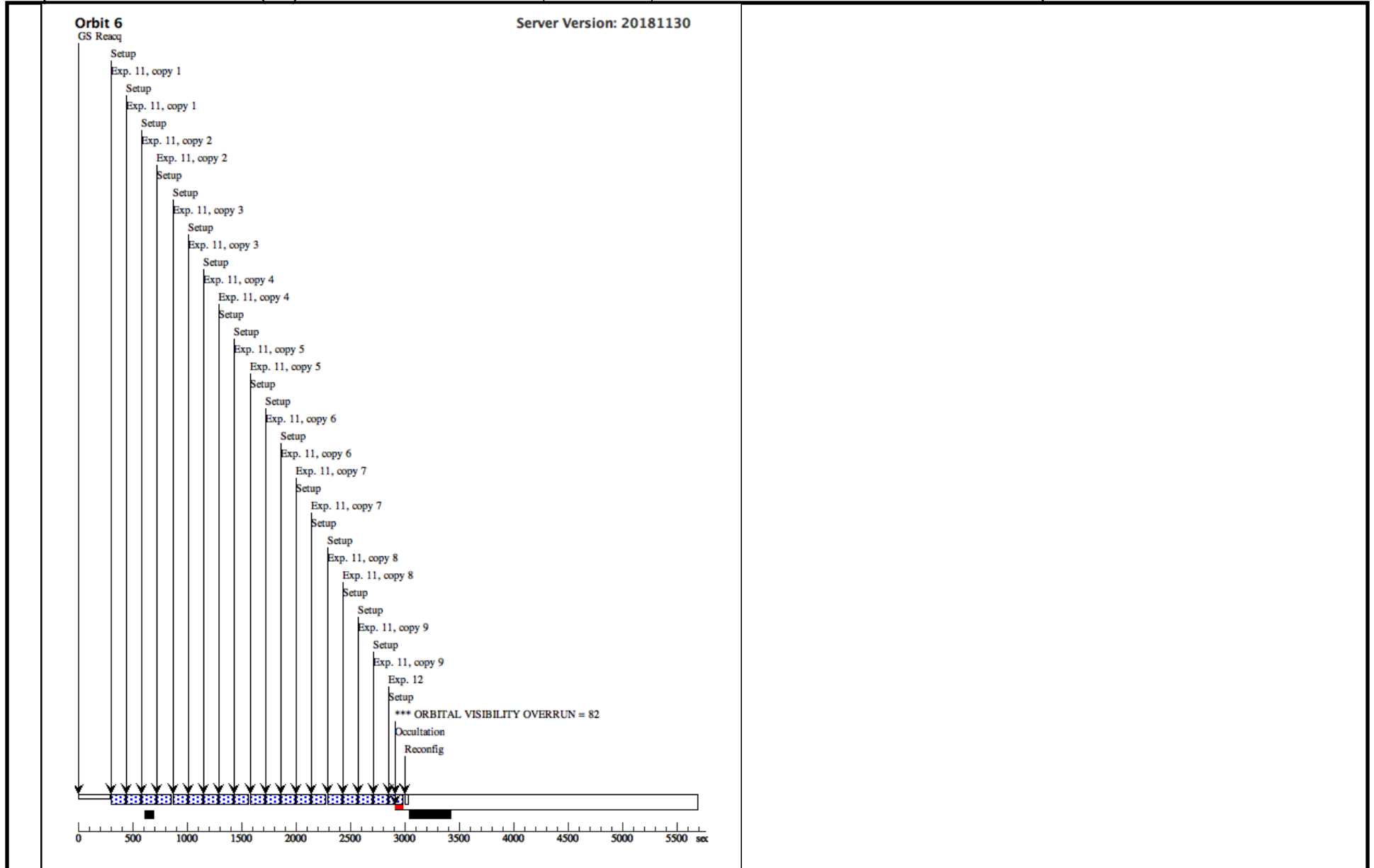
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Proposal 14682 - K2-3 d (10) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (10) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d Avoid SAA (11) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:08:02 GMT 2018

Visit	<p>Proposal 14682, K2-3 d Avoid SAA (11), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 44.5563737 D AND ZERO-PHASE HJD2457271.80073</p> <p><i>Comments: WFC3/G141 transit visit of K2-3d. It is essential for the orbits in each visit to be scheduled in a contiguous block. Eight identical visits of K2-3d will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>					
	Diagnostics	(K2-3 d Avoid SAA (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN				
(K2-3 d Avoid SAA (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN						
(K2-3 d Avoid SAA (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN						
(K2-3 d Avoid SAA (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN						
(K2-3 d Avoid SAA (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	K2-3	RA: 11 29 20.3765 (172.3349021d)	Proper Motion RA: 88.300003 mas/yr	V=12.17+/-0.06	Reference Frame: ICRS
	Alt Name1:	EPIC201367065D	Dec: -01 27 17.33 (-1.45481d)	Proper Motion Dec: -73.599998 mas/yr	J = 9.421 +/- 0.027; H = 8.805 +	
	Alt Name2:	K2-3B	Equinox: J2000	Epoch of Position: 2000	/- 0.044	
	<p><i>Comments: This object was generated by the targetselector and retrieved from the 2MASS database.</i></p> <p>Category=STAR</p> <p>Description=[M III-I]</p>					

Proposal 14682 - K2-3 d Avoid SAA (11) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Acquisition	(1) K2-3	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.99437 TO 0.99587; GS ACQ SCENARIO SINGLE	Sequence 1-2 Non-Int in K2-3 d Avoid SAA (11)	0.833445 Secs (0.833 Secs)	[1]
	2	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees, Round trip	Sequence 1-2 Non-Int in K2-3 d Avoid SAA (11)	103.128633 Secs X 9 (1856.315 Secs)	[1]
	3	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees, Round trip	Sequence 3-4 Non-Int in K2-3 d Avoid SAA (11)	103.128633 Secs X 9 (1856.315 Secs)	[2]

Proposal 14682 - K2-3 d Avoid SAA (11) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

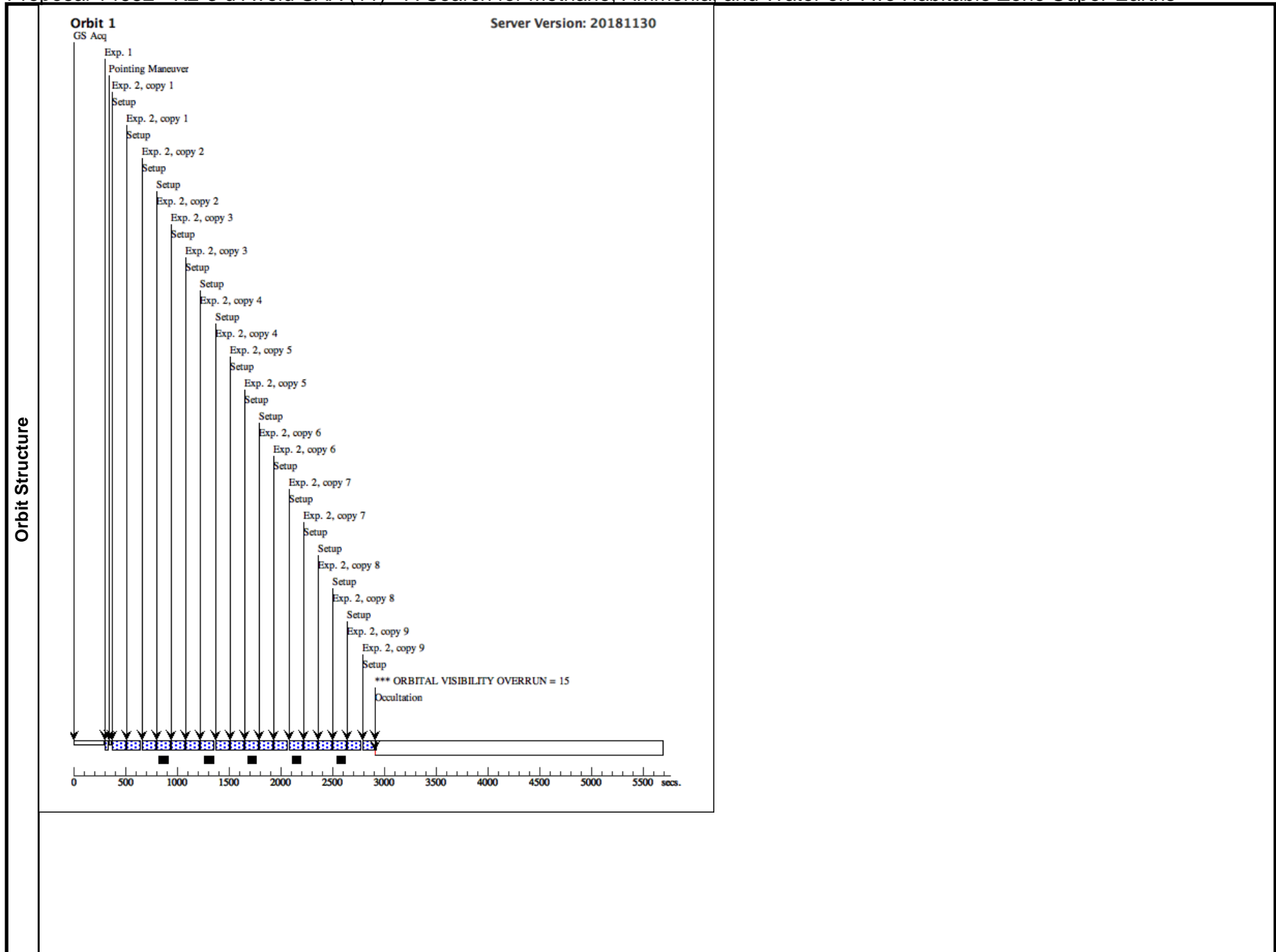
4	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 3-4 Non-Int in K2-3 d Avoid SAA (11)	103.128633 Secs (103.129 Secs)	[==>]	[2]
5	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 5-6 Non-Int in K2-3 d Avoid SAA (11)	103.128633 Secs X 9 (1856.315 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[3]
6	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=8	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 5-6 Non-Int in K2-3 d Avoid SAA (11)	51.703224 Secs (51.703 Secs)	[==>]	[3]

Proposal 14682 - K2-3 d Avoid SAA (11) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

7	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Roun d trip	Sequence 7-8 Non-In t in K2-3 d Avoid S AA (11)	103.128633 Secs X 9 (1856.315 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[4]
8	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forw ard	Sequence 7-8 Non-In t in K2-3 d Avoid S AA (11)	103.128633 Secs (103.129 Secs) [==>]	[4]
9	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Roun d trip	Sequence 9-10 Non-I nt in K2-3 d Avoid S AA (11)	103.128633 Secs X 9 (1856.315 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[5]

Proposal 14682 - K2-3 d Avoid SAA (11) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

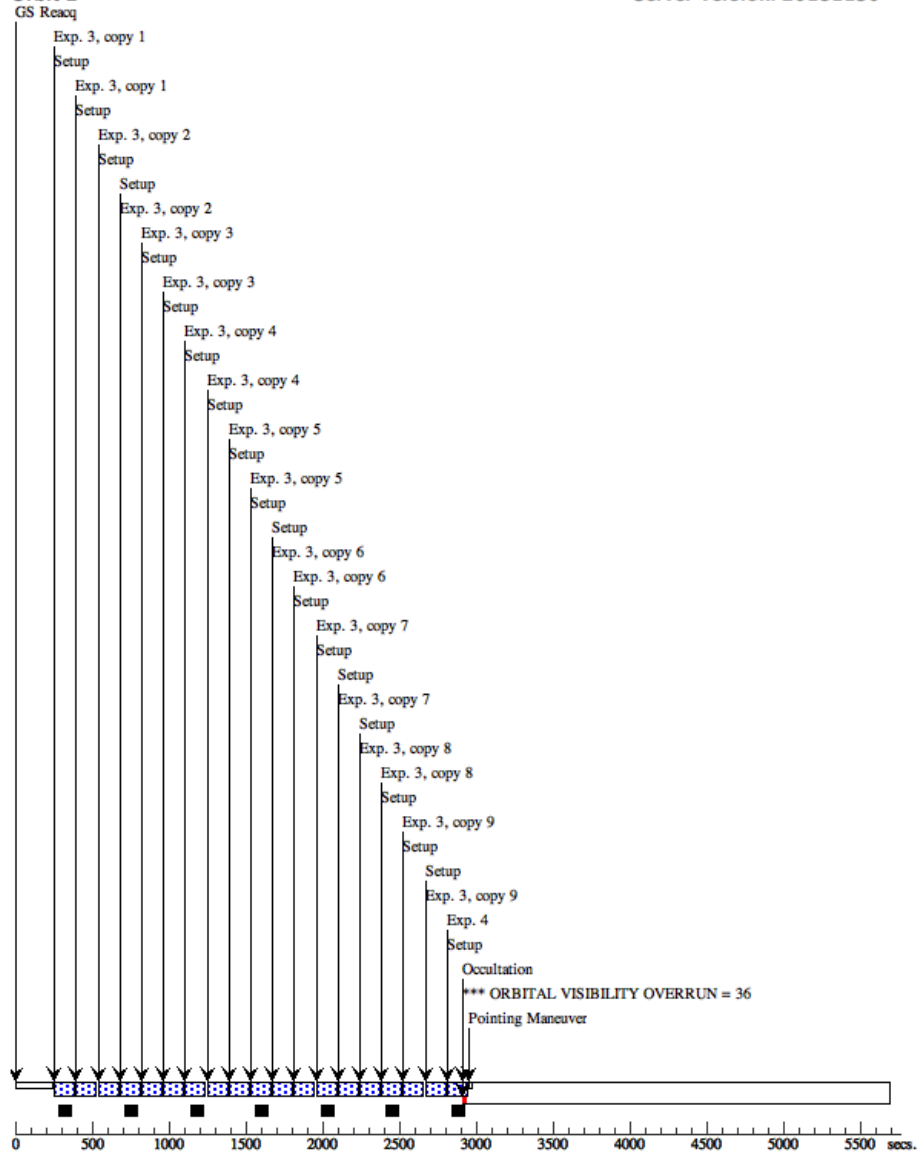
10	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 9-10 Non-Int in K2-3 d Avoid SAA (11)	103.128633 Secs (103.129 Secs) [==>]	[5]
11	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 11-12 Non-Int in K2-3 d Avoid SAA (11)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[6]
12	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 11-12 Non-Int in K2-3 d Avoid SAA (11)	103.128633 Secs (103.129 Secs) [==>]	[6]



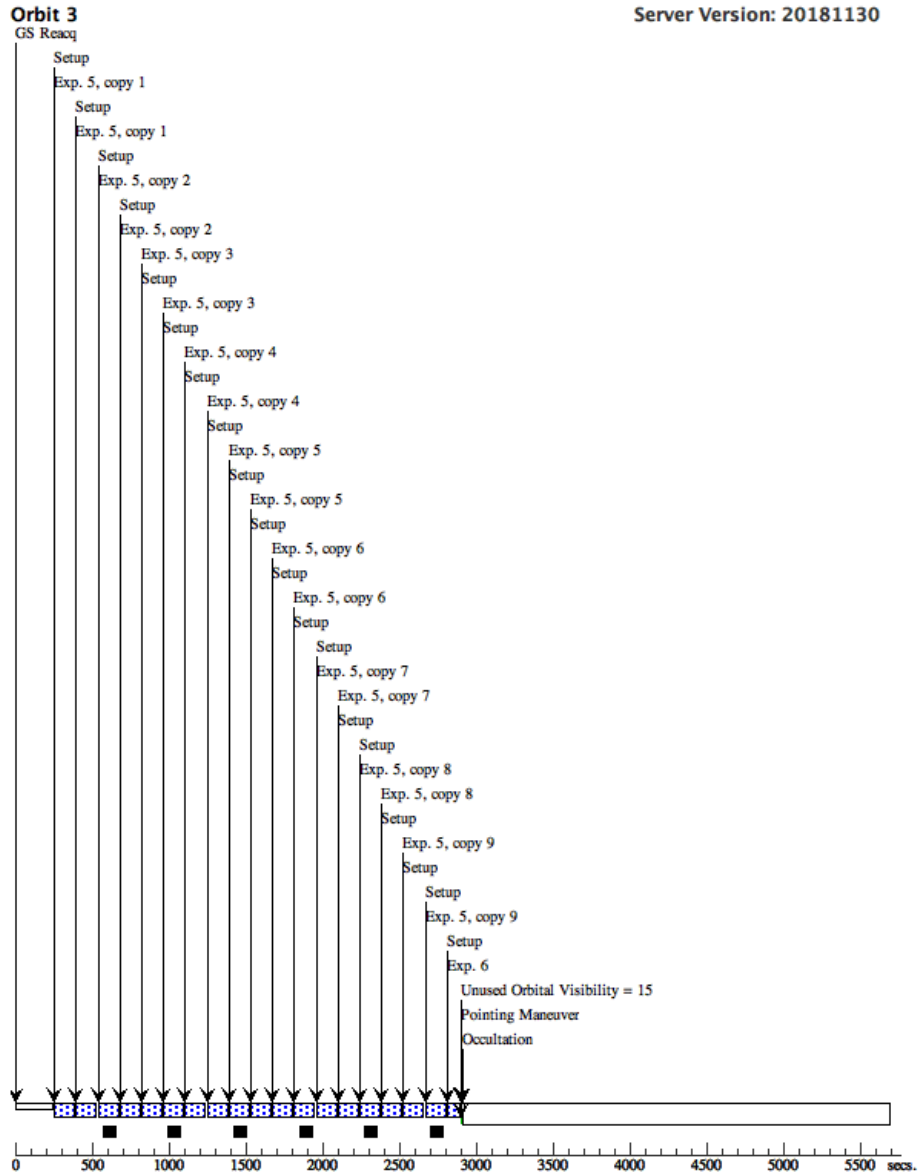
Proposal 14682 - K2-3 d Avoid SAA (11) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 2

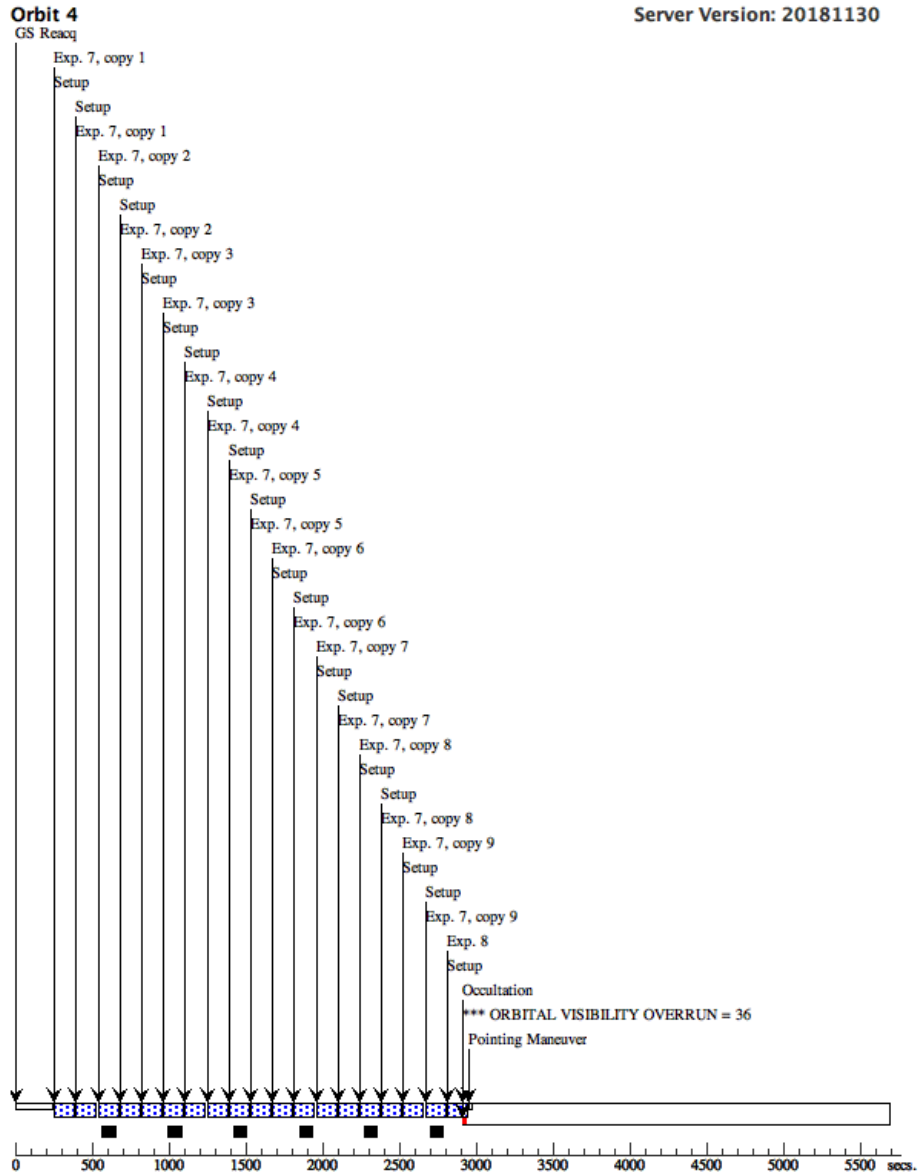
Server Version: 20181130



Proposal 14682 - K2-3 d Avoid SAA (11) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



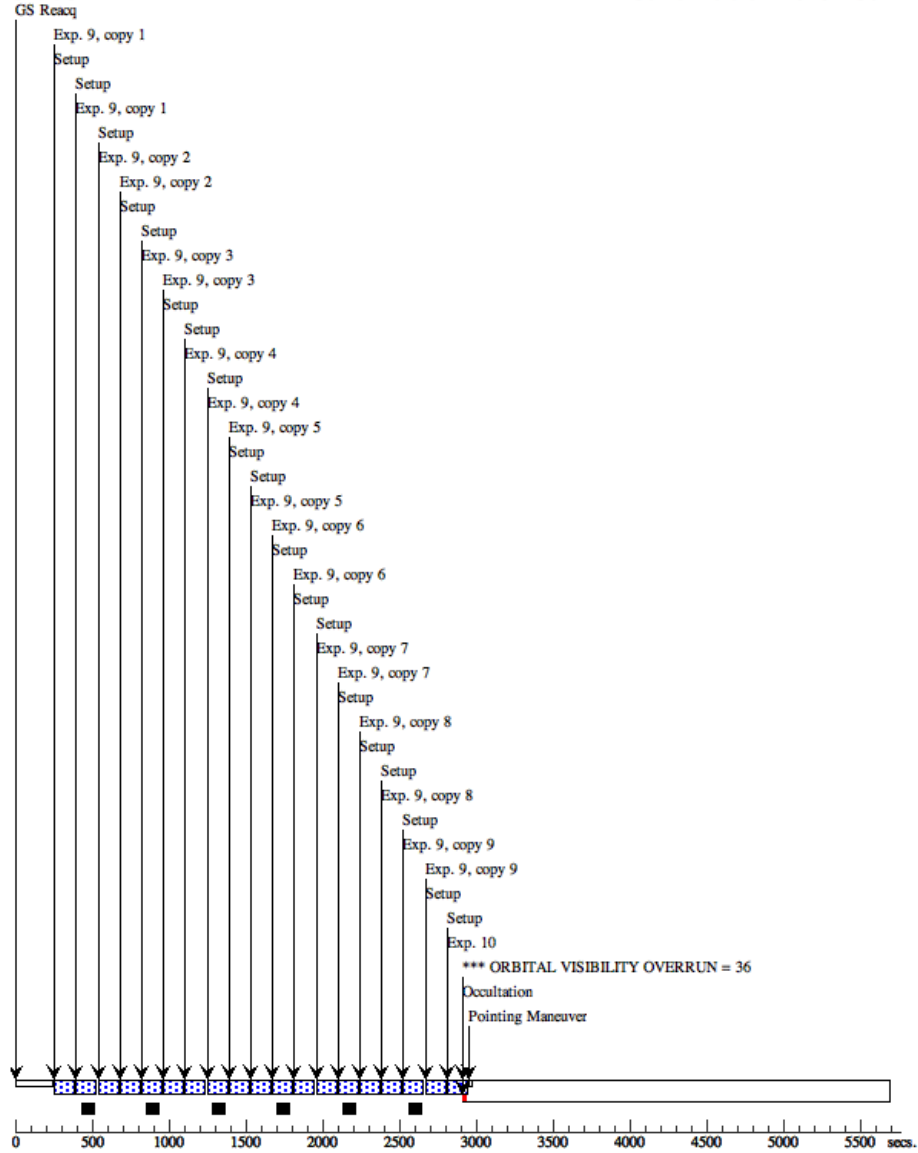
Proposal 14682 - K2-3 d Avoid SAA (11) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



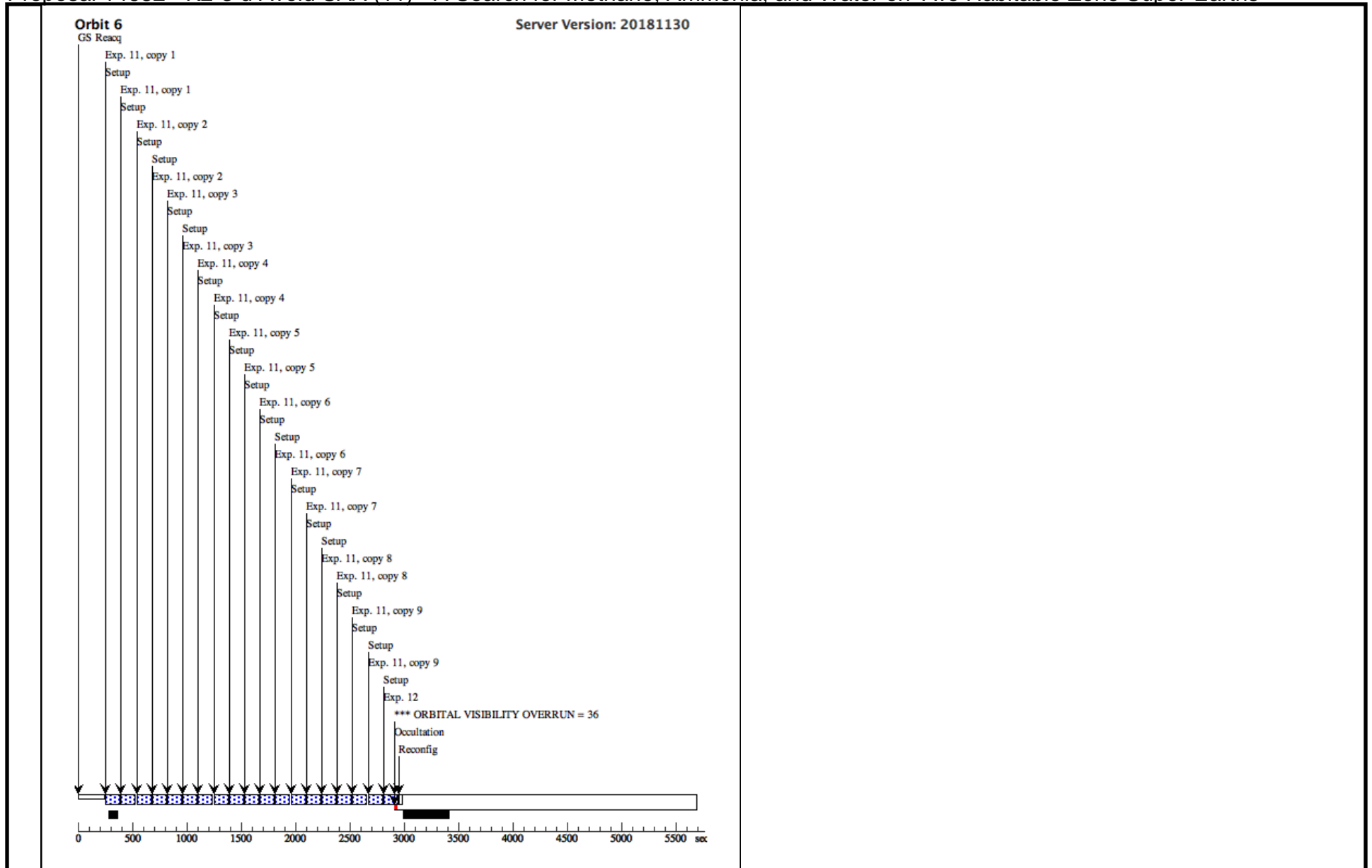
Proposal 14682 - K2-3 d Avoid SAA (11) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 5

Server Version: 20181130



Proposal 14682 - K2-3 d Avoid SAA (11) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (12) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:08:02 GMT 2018

Visit	<p>Proposal 14682, K2-3 d (12), implementation</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 44.5563737 D AND ZERO-PHASE HJD2457271.80073</p> <p><i>Comments: WFC3/G141 transit visit of K2-3d. It is essential for the orbits in each visit to be scheduled in a contiguous block. Eight identical visits of K2-3d will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>					
	<p>(K2-3 d (12)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (12)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (12)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (12)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p>					
Diagnosics						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	K2-3	RA: 11 29 20.3765 (172.3349021d)	Proper Motion RA: 88.300003 mas/yr	V=12.17+/-0.06	Reference Frame: ICRS
		Alt Name1:	Dec: -01 27 17.33 (-1.45481d)	Proper Motion Dec: -73.599998 mas/yr	J = 9.421 +/- 0.027; H = 8.805 +	
		EPIC201367065D	Equinox: J2000	Epoch of Position: 2000	/- 0.044	
		Alt Name2: K2-3B				
	<p><i>Comments: This object was generated by the targetselector and retrieved from the 2MASS database.</i></p> <p>Category=STAR</p> <p>Description=[M III-I]</p>					

Proposal 14682 - K2-3 d (12) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Acquisition	(1) K2-3	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.99437 TO 0.99587; GS ACQ SCENARIO BASE1BE	Sequence 1-2 Non-Int in K2-3 d (12)	0.833445 Secs (0.833 Secs)	[1]
	2	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Rounded trip	Sequence 1-2 Non-Int in K2-3 d (12)	103.128633 Secs X 7 (1443.801 Secs)	[1]
	3	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Rounded trip	Sequence 3-4 Non-Int in K2-3 d (12)	103.128633 Secs X 7 (1443.801 Secs)	[2]
	4	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Forward	Sequence 3-4 Non-Int in K2-3 d (12)	103.128633 Secs (103.129 Secs)	[2]
	5	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Rounded trip	Sequence 5-6 Non-Int in K2-3 d (12)	103.128633 Secs X 2 (412.515 Secs)	[3]

Proposal 14682 - K2-3 d (12) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

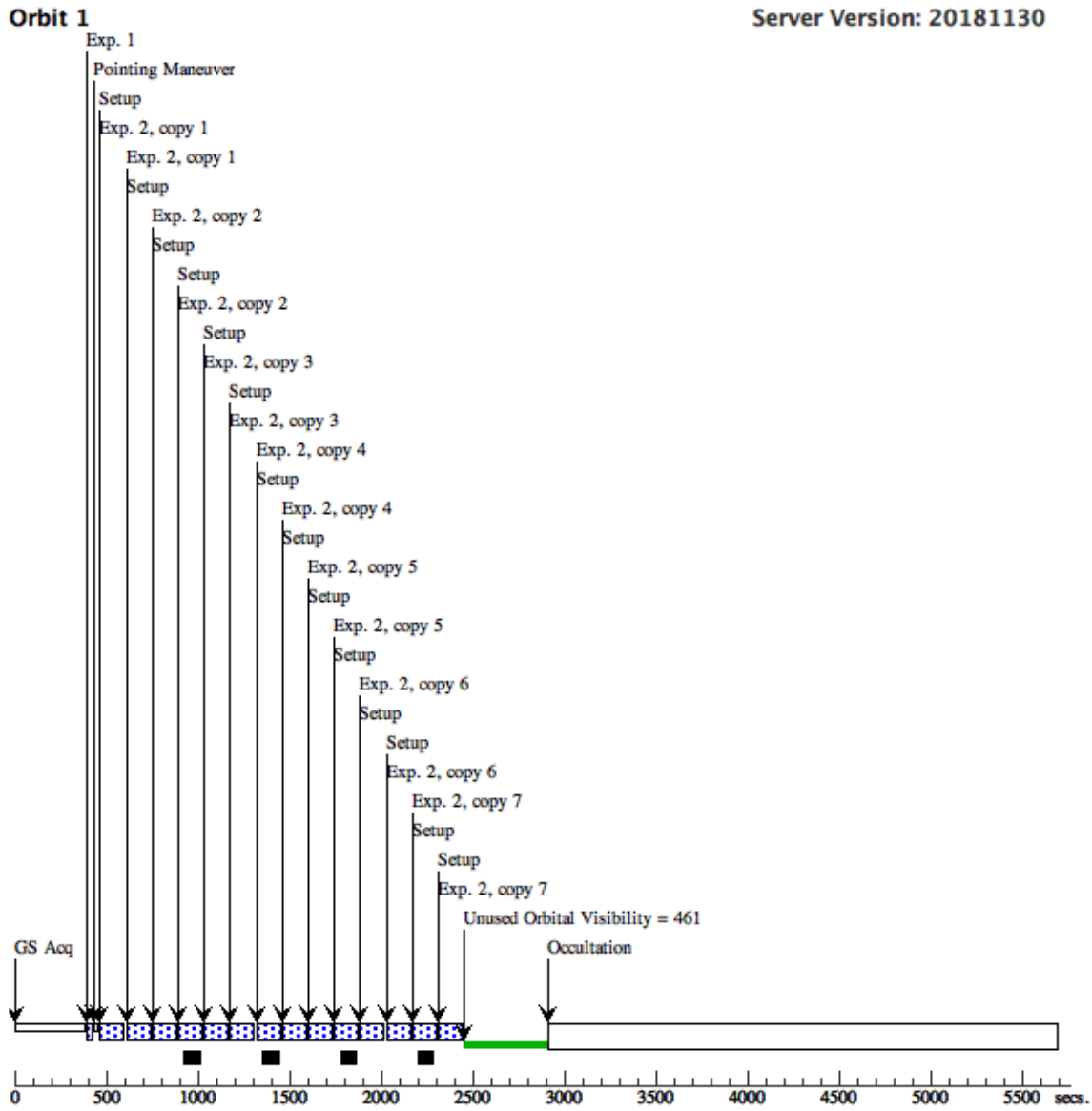
6	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Roun d trip; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 5-6 Non-In t in K2-3 d (12)	103.128633 Secs X 7 (1443.801 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[3]
7	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Roun d trip	Sequence 7-8 Non-In t in K2-3 d (12)	103.128633 Secs X 2 (412.515 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)]	[4]
8	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Roun d trip; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 7-8 Non-In t in K2-3 d (12)	103.128633 Secs X 7 (1443.801 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[4]
9	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Roun d trip	Sequence 9-10 Non-In t in K2-3 d (12)	103.128633 Secs X 3 (618.772 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)]	[5]

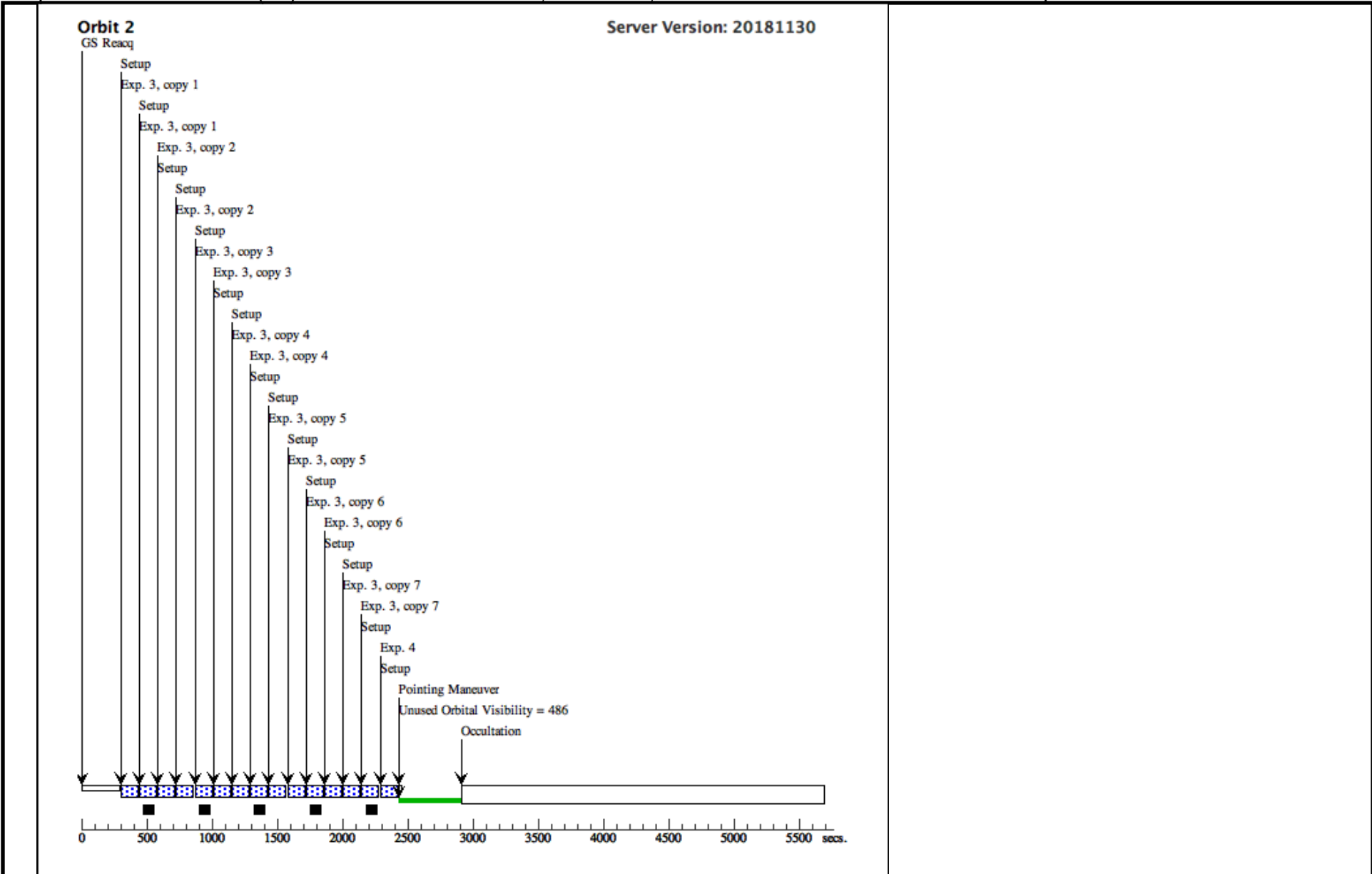
Proposal 14682 - K2-3 d (12) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

10	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Roun d trip; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 9-10 Non-I nt in K2-3 d (12)	103.128633 Secs X 6 (1237.544 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	[5]
11	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Roun d trip	Sequence 11-12 Non -Int in K2-3 d (12)	103.128633 Secs X 4 (825.029 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)]	[6]
12	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Roun d trip; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 11-12 Non -Int in K2-3 d (12)	103.128633 Secs X 5 (1031.286 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)]	[6]

Server Version: 20181130

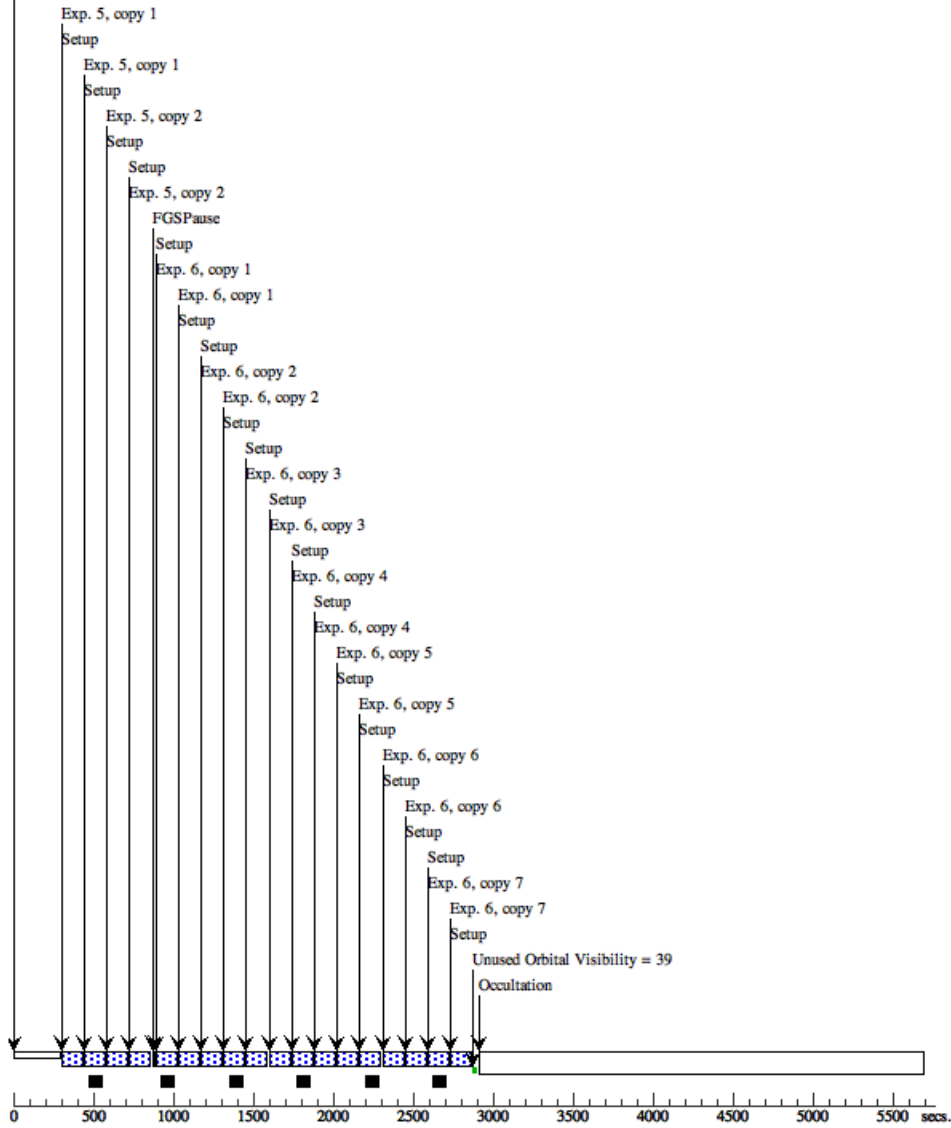
Orbit Structure



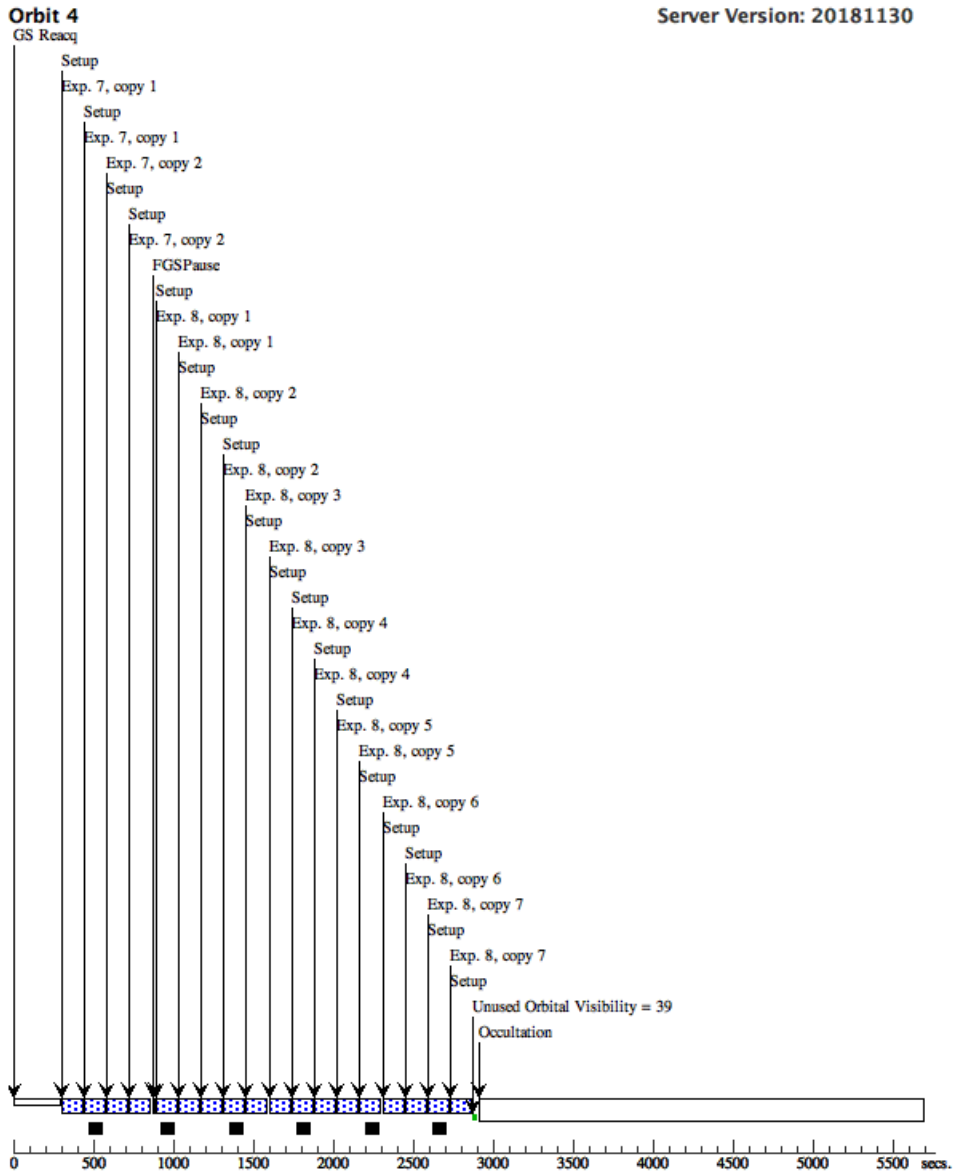


Orbit 3
GS Reacq

Server Version: 20181130



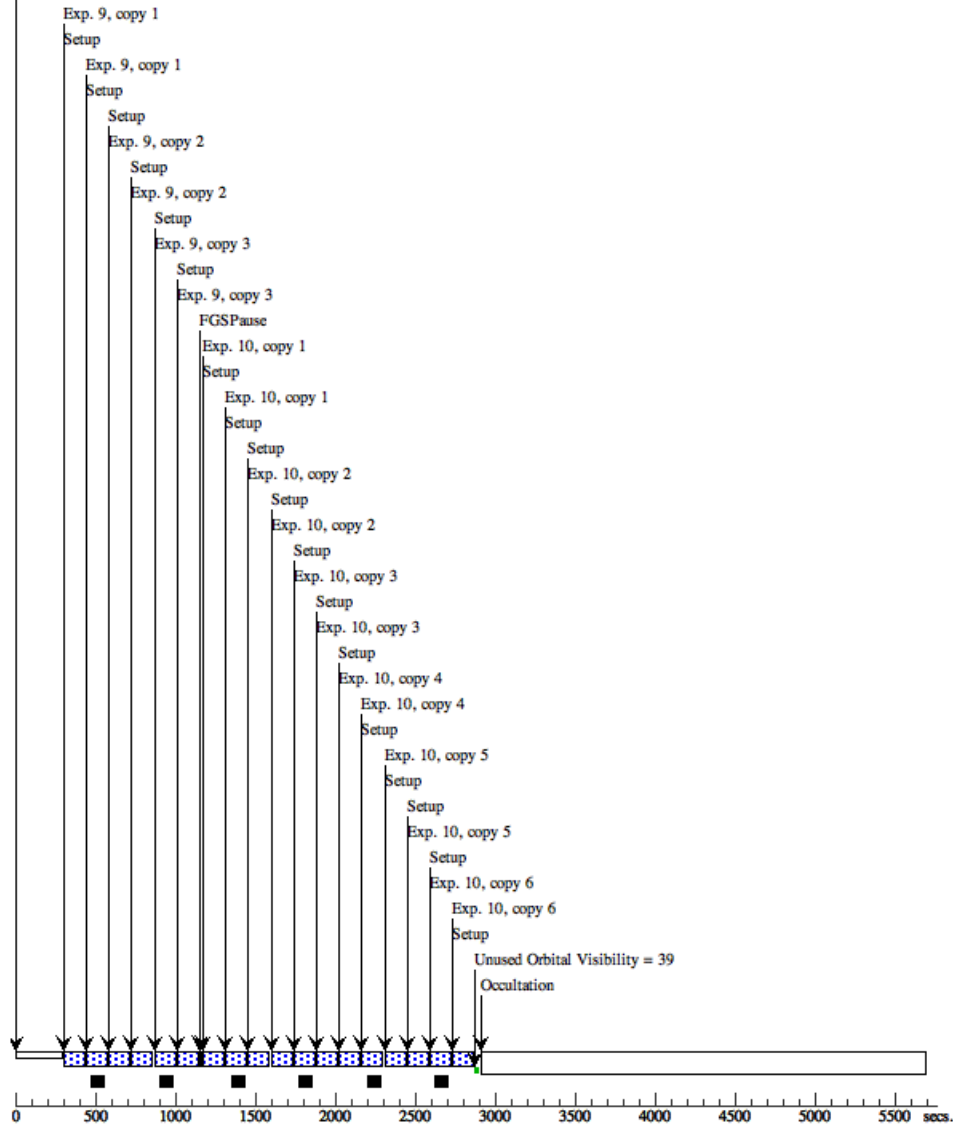
Proposal 14682 - K2-3 d (12) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



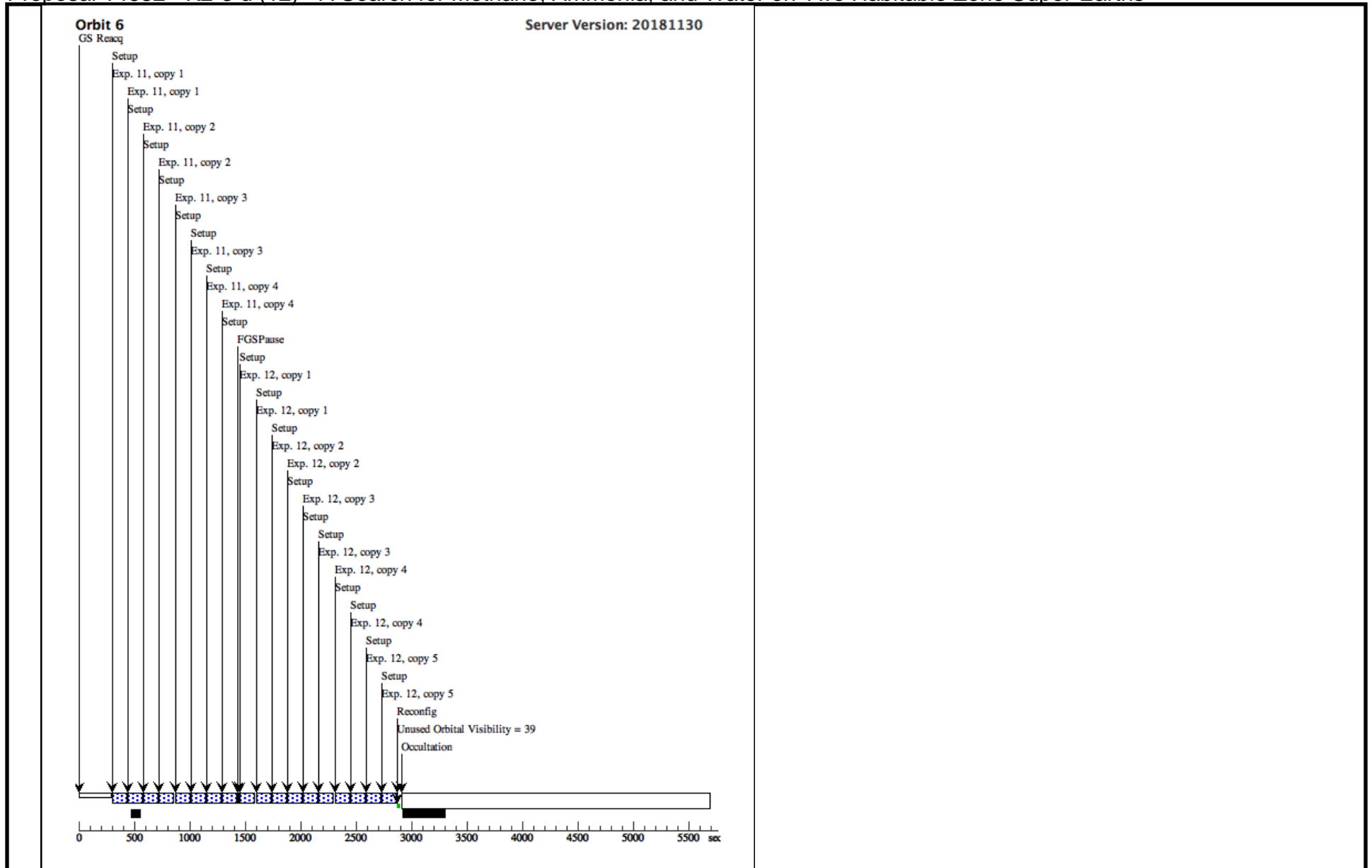
Proposal 14682 - K2-3 d (12) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 5
GS Reacq

Server Version: 20181130



Proposal 14682 - K2-3 d (12) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (13) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:08:02 GMT 2018

Visit	<p>Proposal 14682, K2-3 d (13), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 44.5563737 D AND ZERO-PHASE HJD2457271.80073</p> <p><i>Comments: WFC3/G141 transit visit of K2-3d. It is essential for the orbits in each visit to be scheduled in a contiguous block. Eight identical visits of K2-3d will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>					
	<p>(K2-3 d (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>					
Diagnosics						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	K2-3	RA: 11 29 20.3765 (172.3349021d)	Proper Motion RA: 88.300003 mas/yr	V=12.17+/-0.06	Reference Frame: ICRS
		Alt Name1:	Dec: -01 27 17.33 (-1.45481d)	Proper Motion Dec: -73.599998 mas/yr	J = 9.421 +/- 0.027; H = 8.805 +	
		EPIC201367065D	Equinox: J2000	Epoch of Position: 2000	/- 0.044	
		Alt Name2: K2-3B				
	<p><i>Comments: This object was generated by the targetselector and retrieved from the 2MASS database.</i></p> <p>Category=STAR</p> <p>Description=[M III-I]</p>					

Proposal 14682 - K2-3 d (13) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(1) K2-3	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.99437 TO 0.99587	Sequence 1-2 Non-Int in K2-3 d (13)	0.833445 Secs (0.833 Secs) [==>]	[1]
2	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees, Round trip	Sequence 1-2 Non-Int in K2-3 d (13)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[1]
3	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees, Round trip	Sequence 3-4 Non-Int in K2-3 d (13)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[2]

Exposures

Proposal 14682 - K2-3 d (13) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

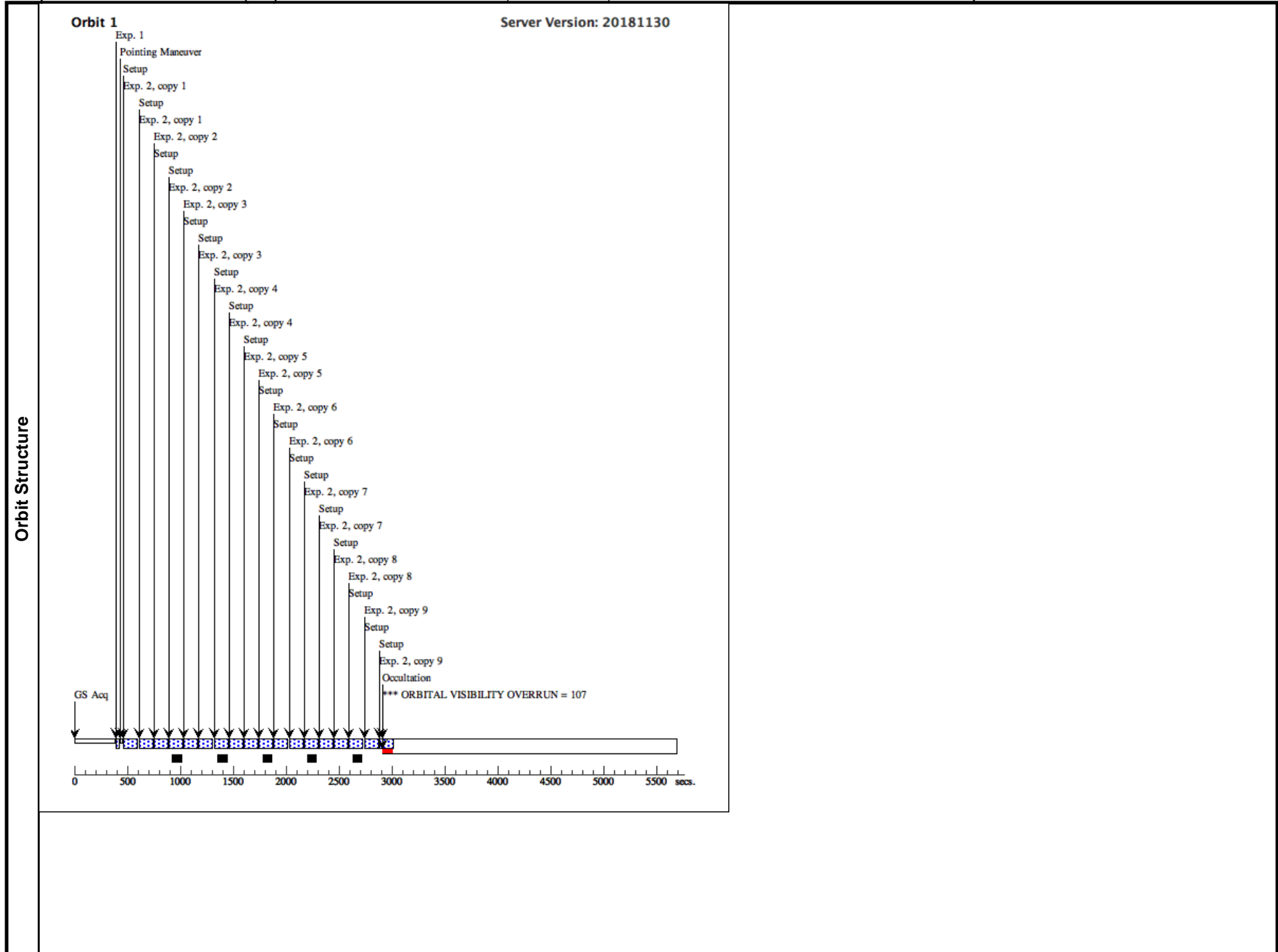
4	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 3-4 Non-Int in K2-3 d (13)	103.128633 Secs (103.129 Secs)	[2]
5	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 5-6 Non-Int in K2-3 d (13)	103.128633 Secs X 9 (1856.315 Secs)	[3]
6	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 5-6 Non-Int in K2-3 d (13)	103.128633 Secs (103.129 Secs)	[3]

Proposal 14682 - K2-3 d (13) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

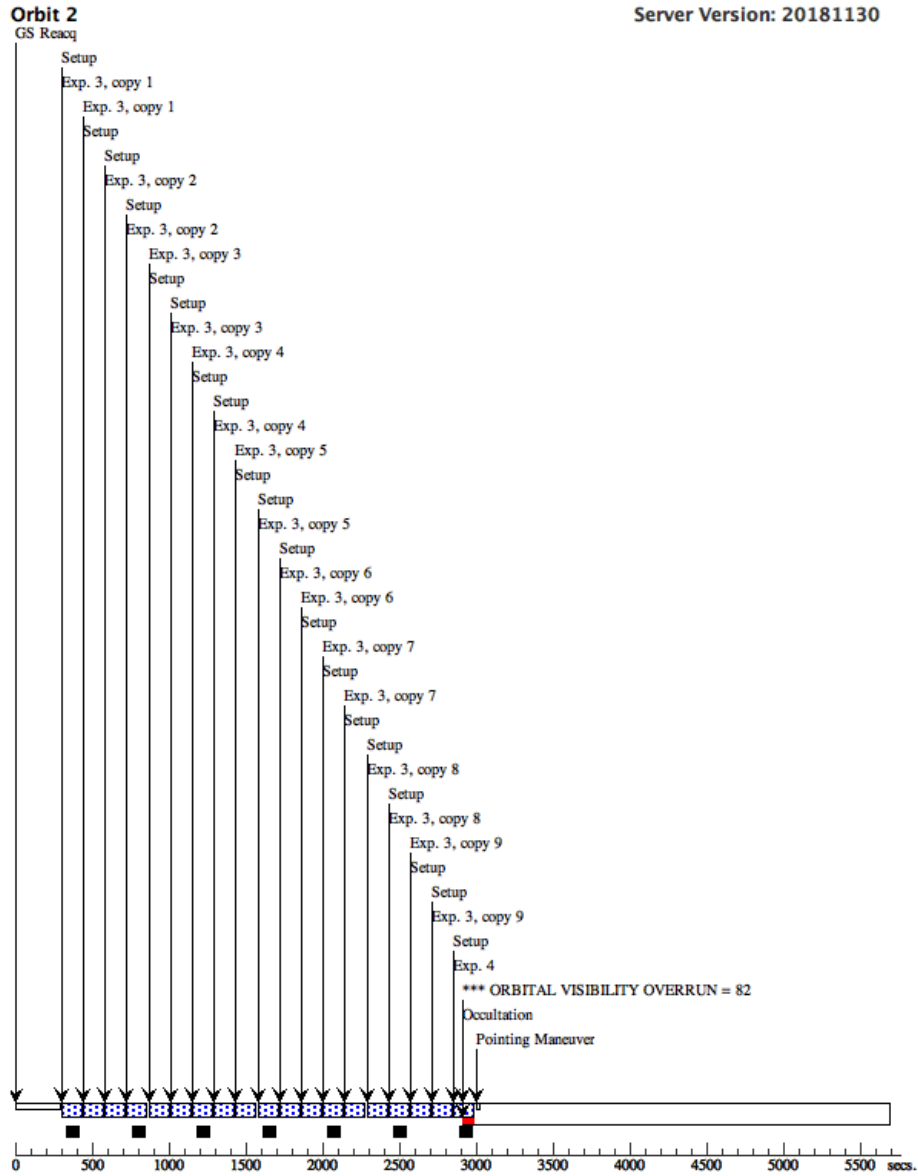
7	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 7-8 Non-Int in K2-3 d (13)	103.128633 Secs X 9 (1856.315 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[4]
8	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 7-8 Non-Int in K2-3 d (13)	103.128633 Secs (103.129 Secs)	[==>]	[4]
9	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 9-9 Non-Int in K2-3 d (13)	103.128633 Secs X 9 (1856.315 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[5]

Proposal 14682 - K2-3 d (13) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

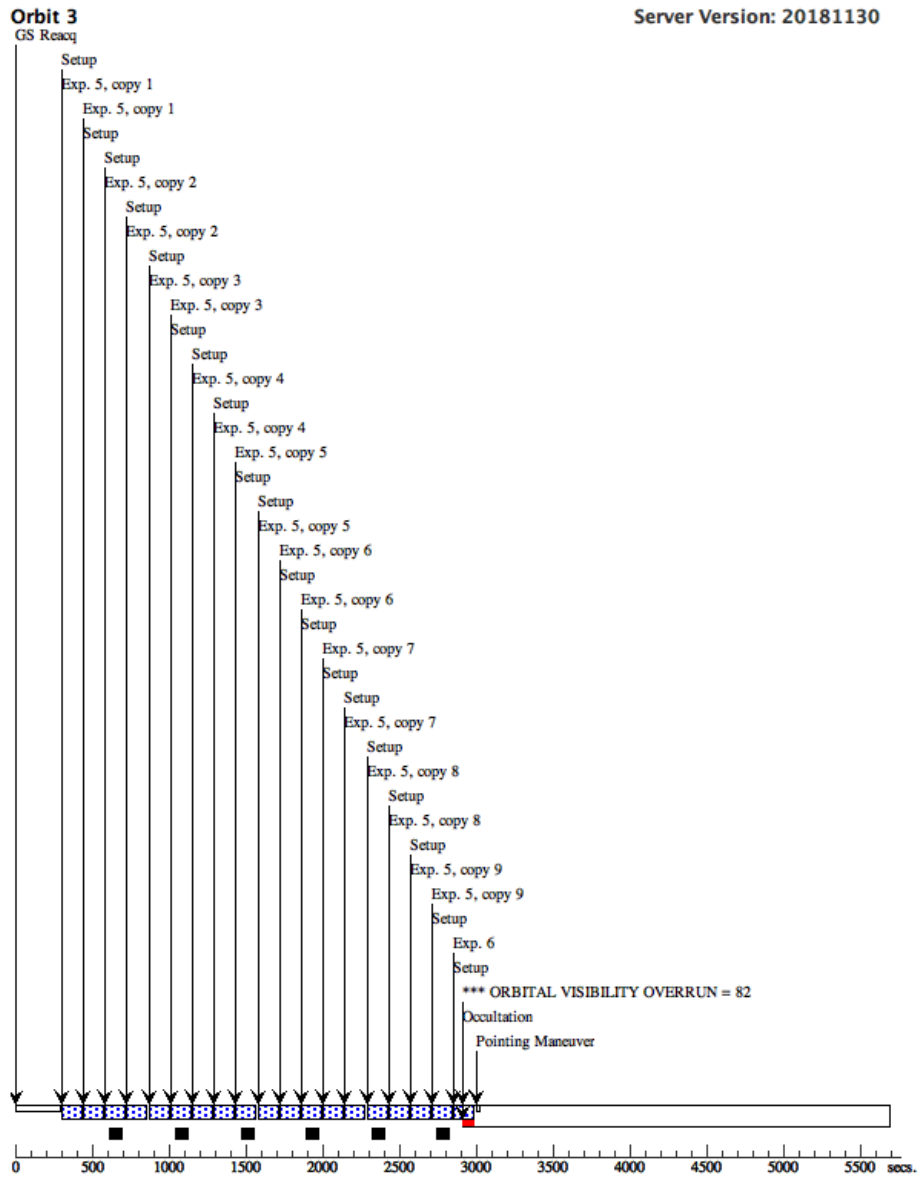
10	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Roun d trip	Sequence 10-11 Non -Int in K2-3 d (13)	103.128633 Secs X 8 (1650.058 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)]	[6]
11	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forw ard	Sequence 10-11 Non -Int in K2-3 d (13)	103.128633 Secs (103.129 Secs) [==>]	[6]



Proposal 14682 - K2-3 d (13) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



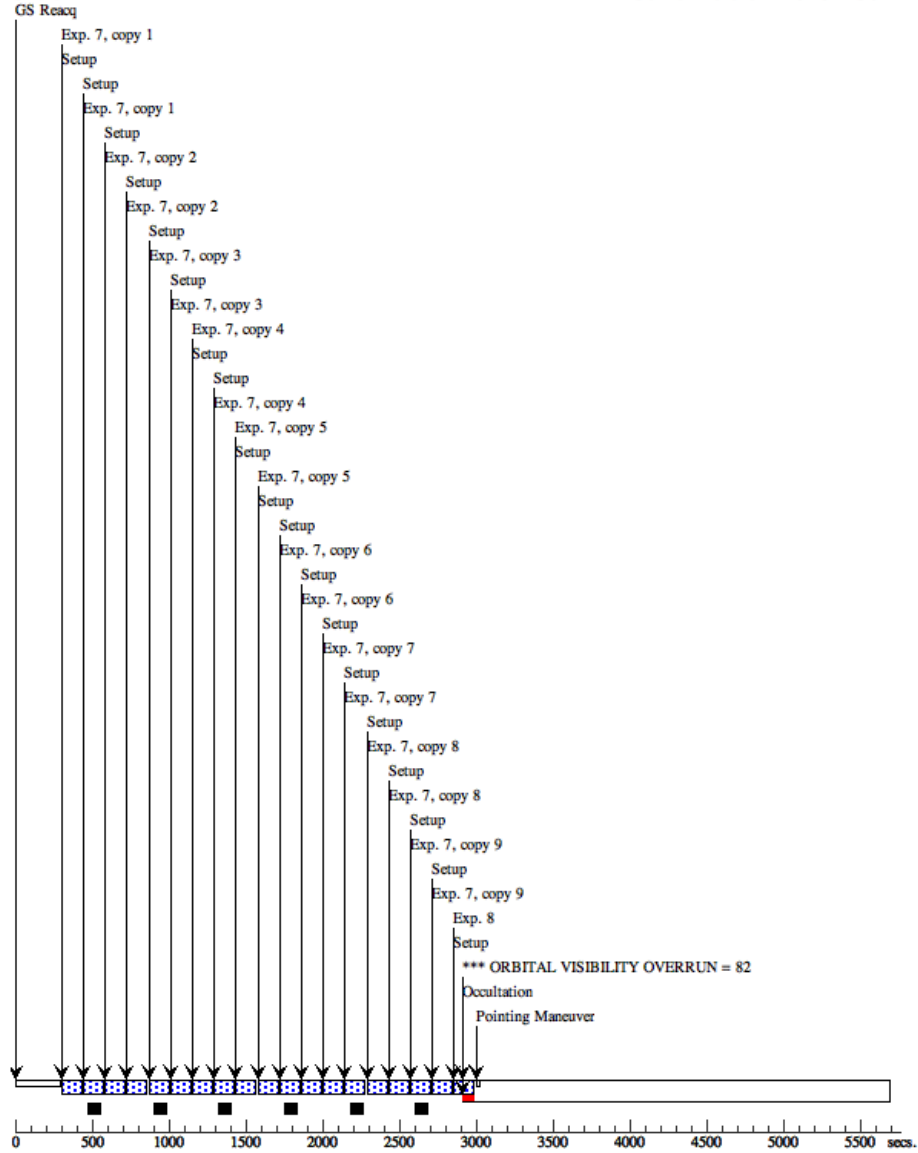
Proposal 14682 - K2-3 d (13) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

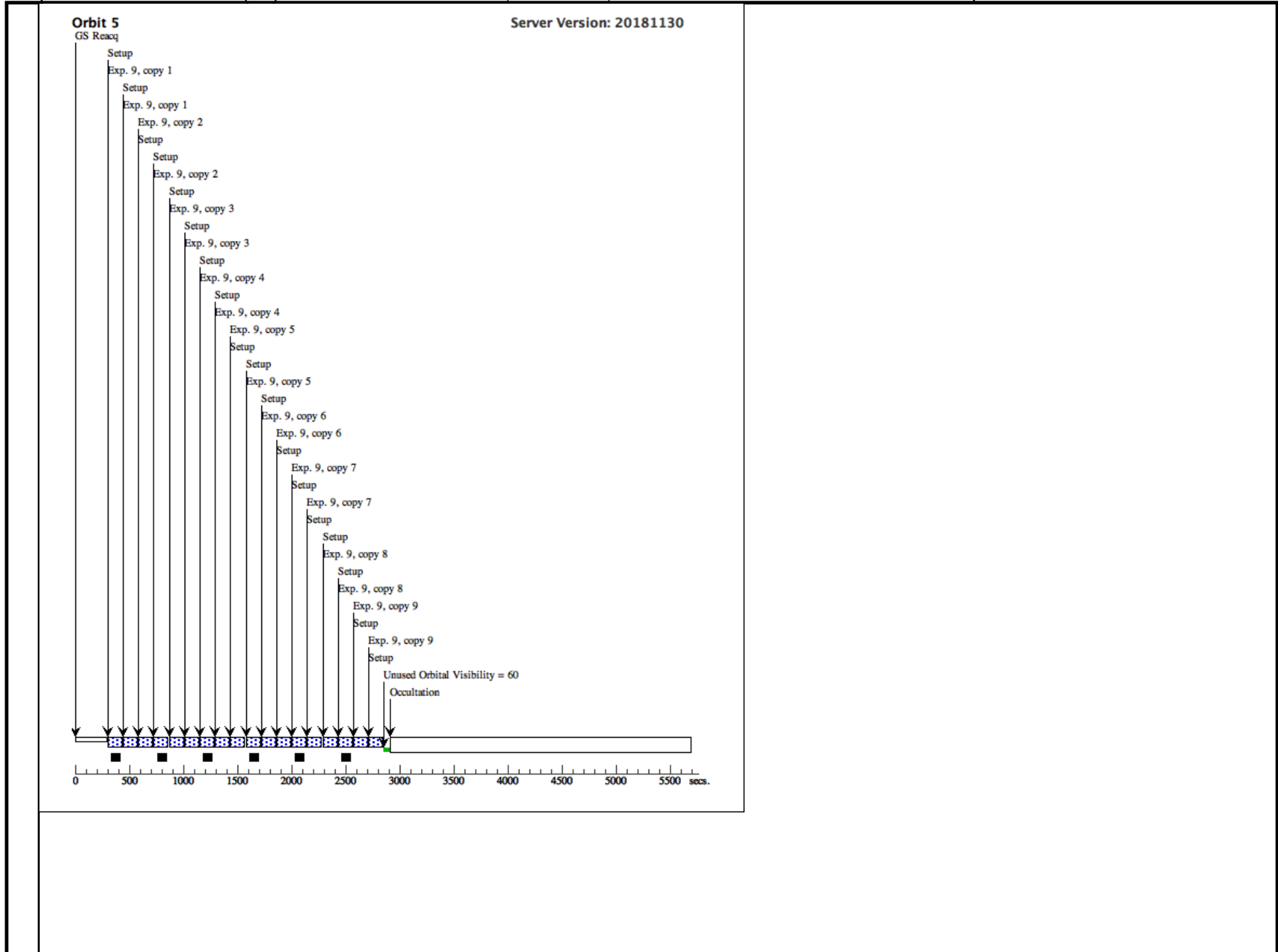


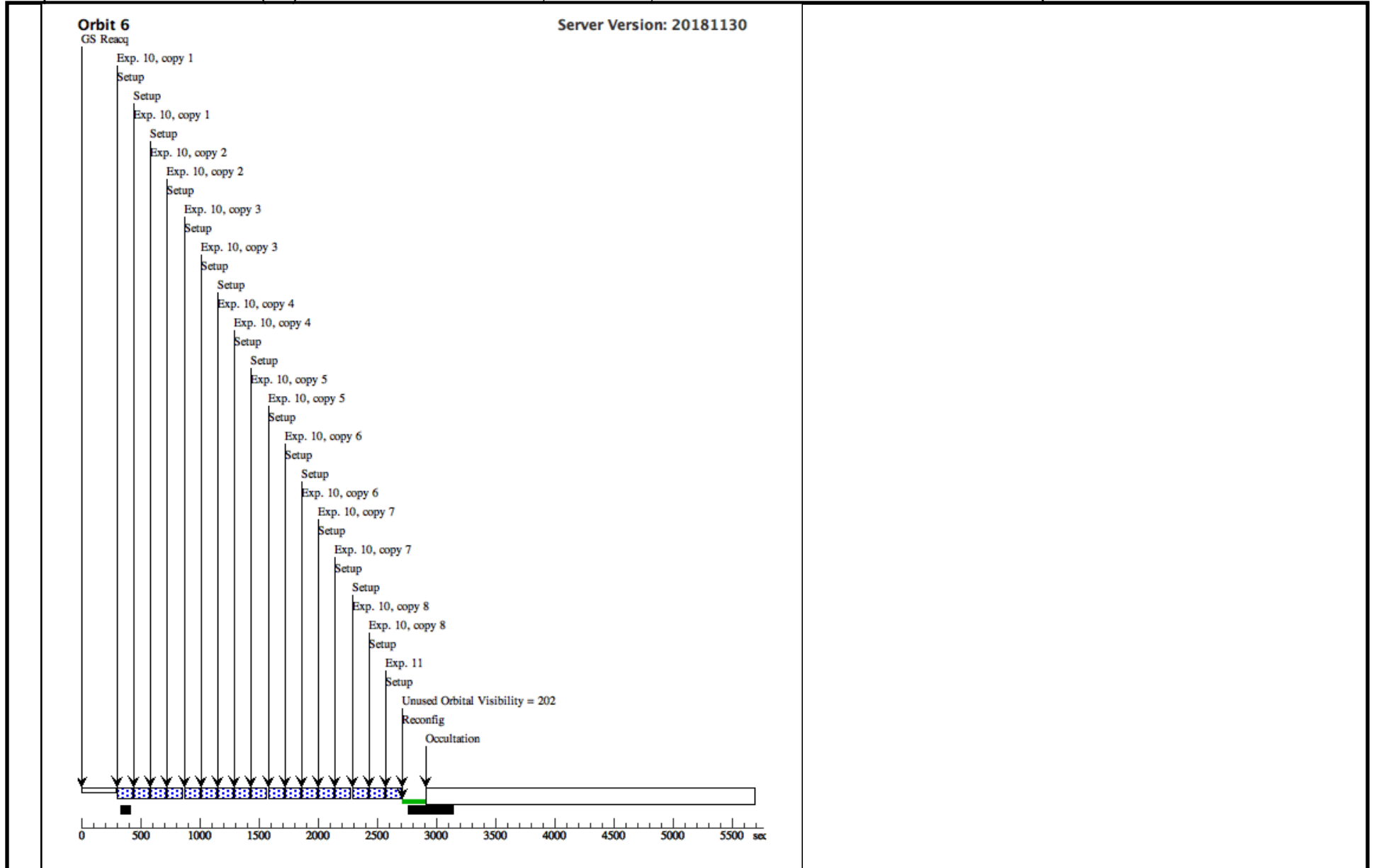
Proposal 14682 - K2-3 d (13) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 4

Server Version: 20181130







Proposal 14682 - K2-3 d (14) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Thu Dec 06 20:08:03 GMT 2018

Visit	<p>Proposal 14682, K2-3 d (14), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/IR</p> <p>Special Requirements: SCHED 100%; Period 44.5563737 D AND ZERO-PHASE HJD2457271.80073</p> <p><i>Comments: WFC3/G141 transit visit of K2-3d. It is essential for the orbits in each visit to be scheduled in a contiguous block. Eight identical visits of K2-3d will be taken to build up the required SNR.</i></p> <p><i>The repeated observations and the relatively long orbital period of this habitable zone planet may present a challenge in the scheduling process. If beneficial for the scheduling, please feel free to observe the target with only one guide star. We have successfully done this for the bright star HD97658b in program GO 13501 (Knutson et al. 2014b). Also, if necessary, feel free to observe during the SAA passage. A contiguous block of >10 orbits to measure the phase curve of WASP-43b using WFC3 did not show any significant negative effects on the data quality for transit spectroscopy (Stevenson et al., 2014).</i></p>						
	Diagnostics	<p>(K2-3 d (14)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (14)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (14)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (14)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (14)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (14)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO</p> <p>(K2-3 d (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(K2-3 d (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>					
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
		(1)	K2-3	RA: 11 29 20.3765 (172.3349021d)	Proper Motion RA: 88.300003 mas/yr	V=12.17+/-0.06	Reference Frame: ICRS
			Alt Name1:	Dec: -01 27 17.33 (-1.45481d)	Proper Motion Dec: -73.599998 mas/yr	J = 9.421 +/- 0.027; H = 8.805 +	
			EPIC201367065D	Equinox: J2000	Epoch of Position: 2000	/- 0.044	
			Alt Name2: K2-3B				
<p><i>Comments: This object was generated by the targetselector and retrieved from the 2MASS database.</i></p> <p>Category=STAR</p> <p>Description=[M III-I]</p>							

Proposal 14682 - K2-3 d (14) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	Acquisition	(1) K2-3	WFC3/IR, MULTIACCUM, IRSUB256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.99437 TO 0.99587	Sequence 1-4 Non-Int in K2-3 d (14)	0.833445 Secs (0.833 Secs) [==>]	[1]
	2	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Round trip	Sequence 1-4 Non-Int in K2-3 d (14)	103.128633 Secs (206.257 Secs) [==>(Forward)] [==>(Reverse)]	[1]
	3	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Round trip; SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 1-4 Non-Int in K2-3 d (14)	103.128633 Secs X 7 (1443.801 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[1]
	4	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Forward; SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 1-4 Non-Int in K2-3 d (14)	103.128633 Secs (103.129 Secs) [==>]	[1]
	5	G141 Science Data	(1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.18,90.0 Degrees,Round trip	Sequence 5-7 Non-Int in K2-3 d (14)	103.128633 Secs X 3 (618.772 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)]	[2]

Proposal 14682 - K2-3 d (14) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

6	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip; SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 5-7 Non-Int in K2-3 d (14)	103.128633 Secs X 6 (1237.544 Secs)	[2]
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	
7	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward; SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 5-7 Non-Int in K2-3 d (14)	103.128633 Secs (103.129 Secs)	[2]
							[==>]	
8	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 8-10 Non-Int in K2-3 d (14)	103.128633 Secs X 5 (1031.286 Secs)	[3]
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)]	
9	G141 Science Data (1) K2-3	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip; SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 8-10 Non-Int in K2-3 d (14)	103.128633 Secs X 4 (825.029 Secs)	[3]
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)]	

Proposal 14682 - K2-3 d (14) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

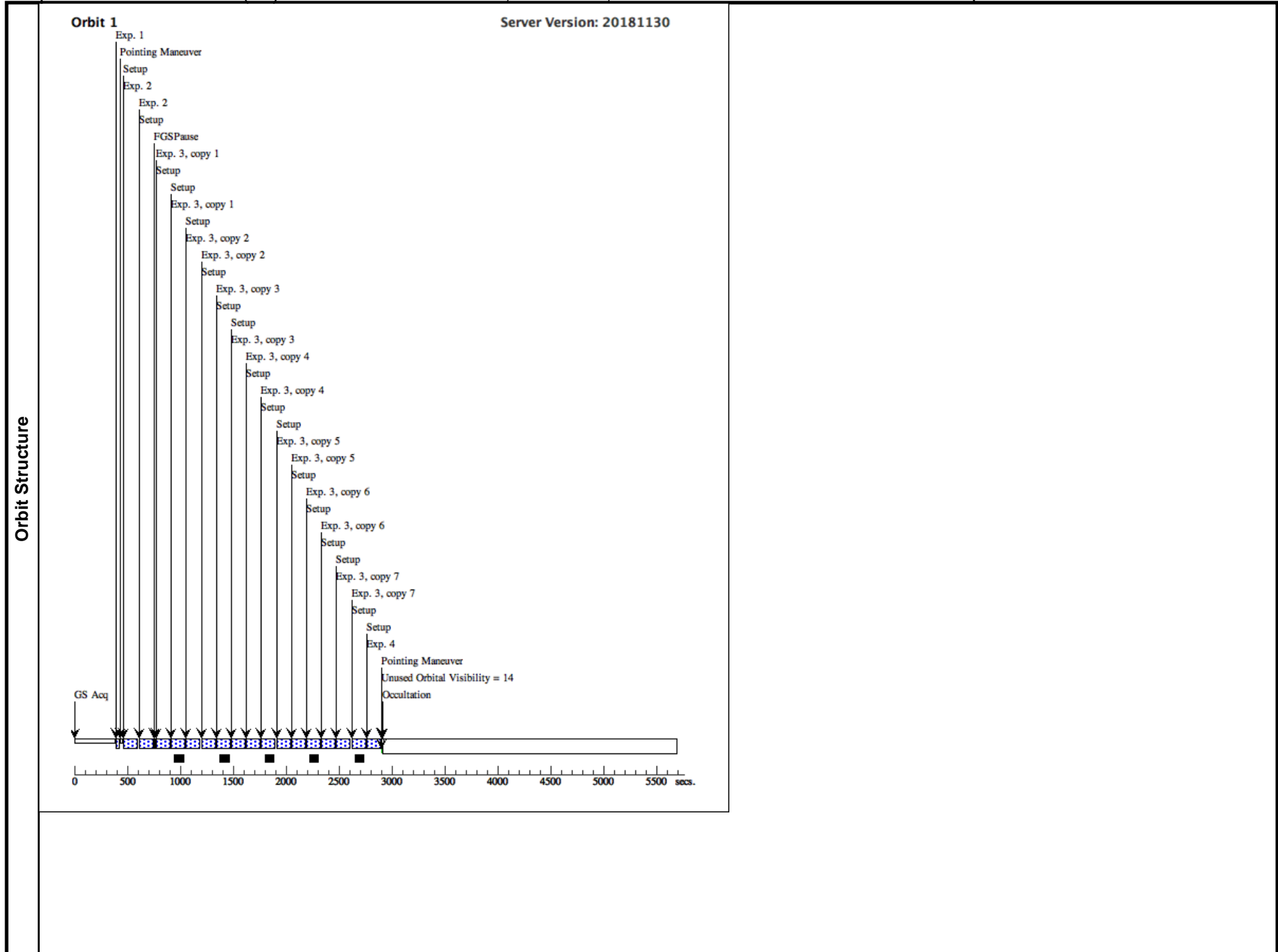
10	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward; SAA CONTOUR 11; EXP PCS MODE G YRO	Sequence 8-10 Non-Int in K2-3 d (14)	103.128633 Secs (103.129 Secs) [==>]	[3]
11	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 11-12 Non-Int in K2-3 d (14)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[4]
12	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 11-12 Non-Int in K2-3 d (14)	103.128633 Secs (103.129 Secs) [==>]	[4]

Proposal 14682 - K2-3 d (14) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

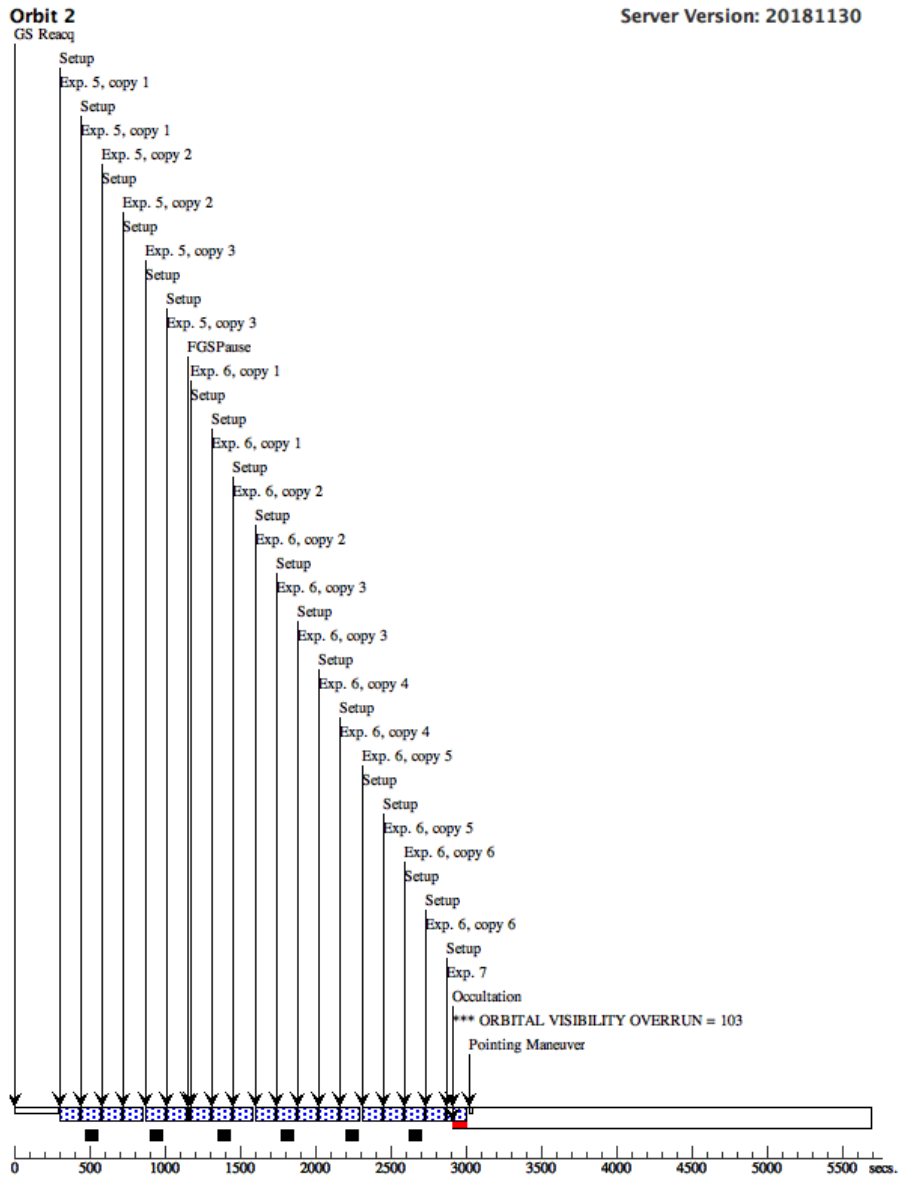
13	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 13-14 Non -Int in K2-3 d (14)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[5]
14	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 13-14 Non -Int in K2-3 d (14)	103.128633 Secs (103.129 Secs) [==>]	[5]
15	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Round trip	Sequence 15-16 Non -Int in K2-3 d (14)	103.128633 Secs X 9 (1856.315 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)] [==>(Copy 8, Forward)] [==>(Copy 8, Reverse)] [==>(Copy 9, Forward)] [==>(Copy 9, Reverse)]	[6]

Proposal 14682 - K2-3 d (14) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

16	G141 Science (1) K2-3 e Data	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-12; SPATIAL SCAN 0.1 8,90.0 Degrees,Forward	Sequence 15-16 Non -Int in K2-3 d (14)	103.128633 Secs (103.129 Secs) [==>]	[6]
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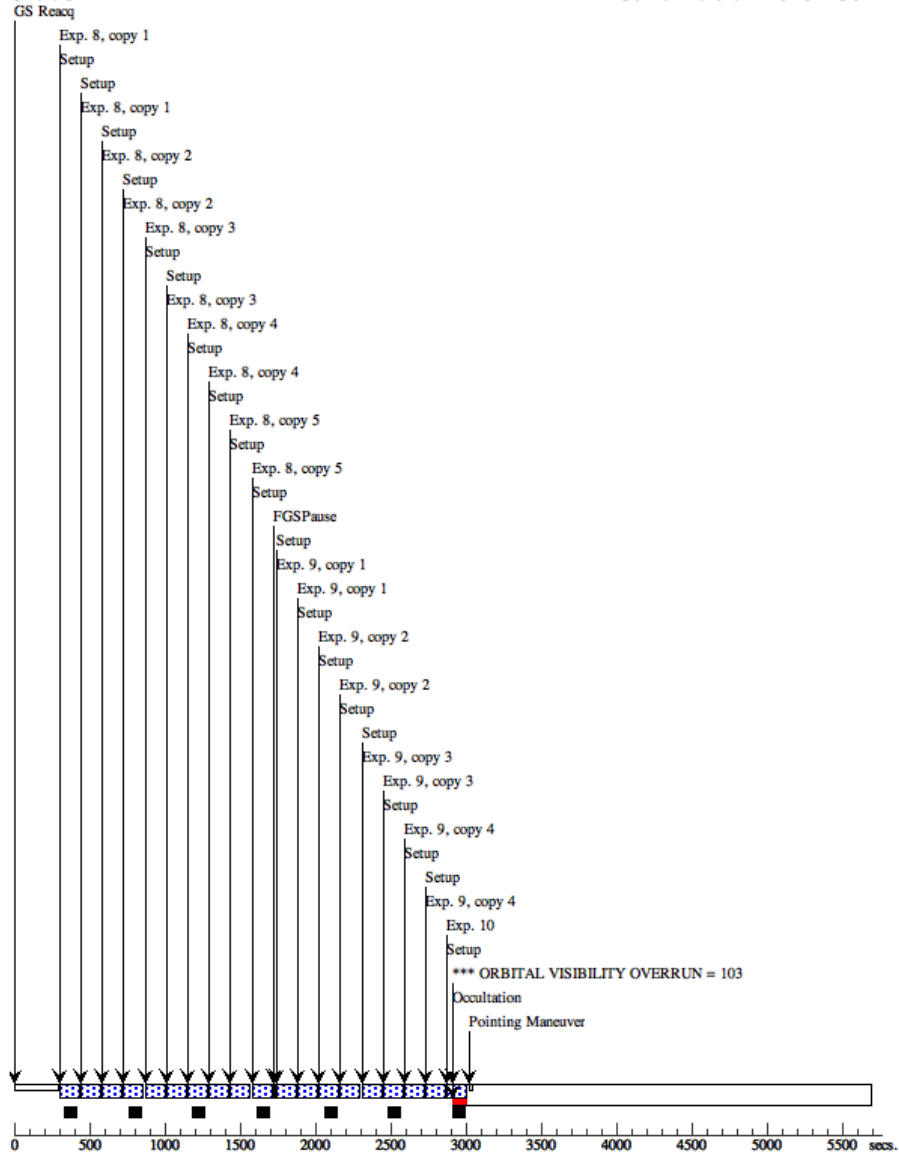
Proposal 14682 - K2-3 d (14) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths



Proposal 14682 - K2-3 d (14) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 3

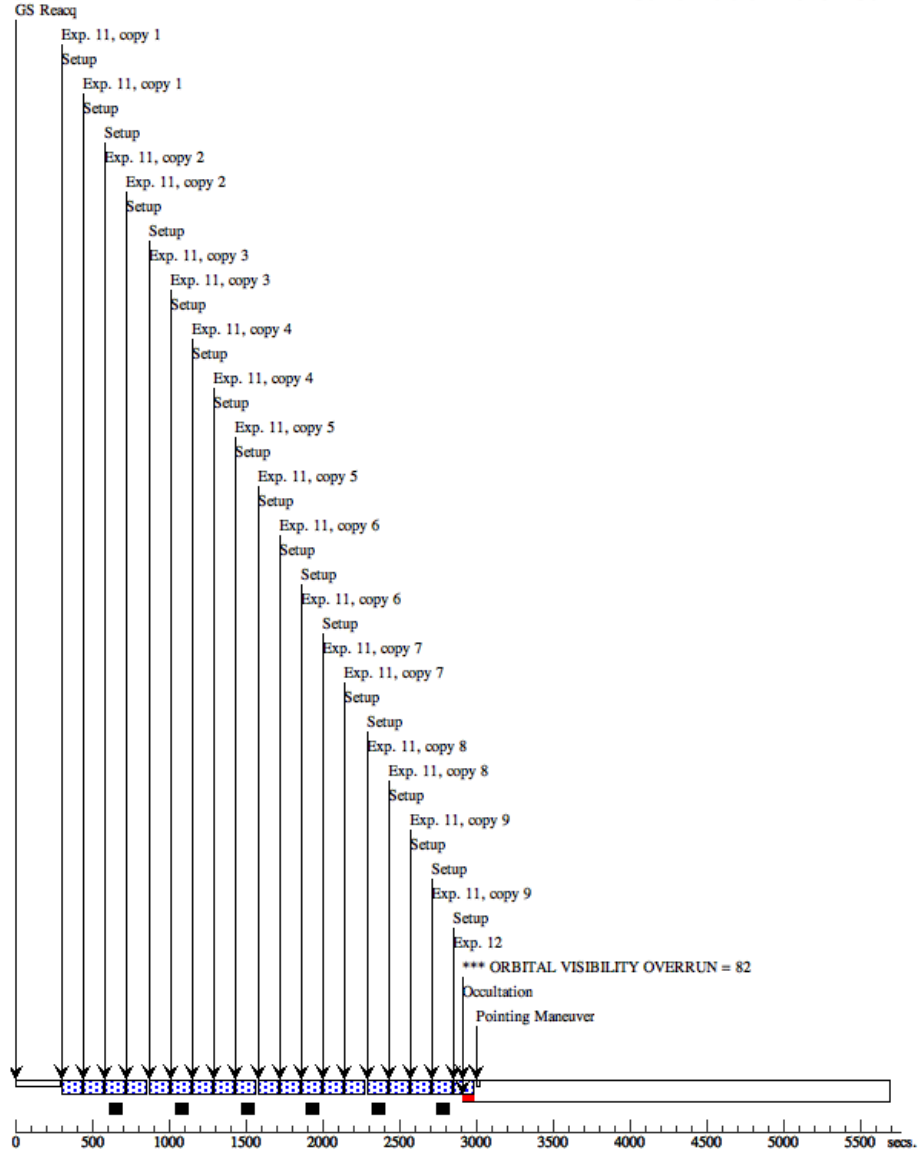
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Proposal 14682 - K2-3 d (14) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 4

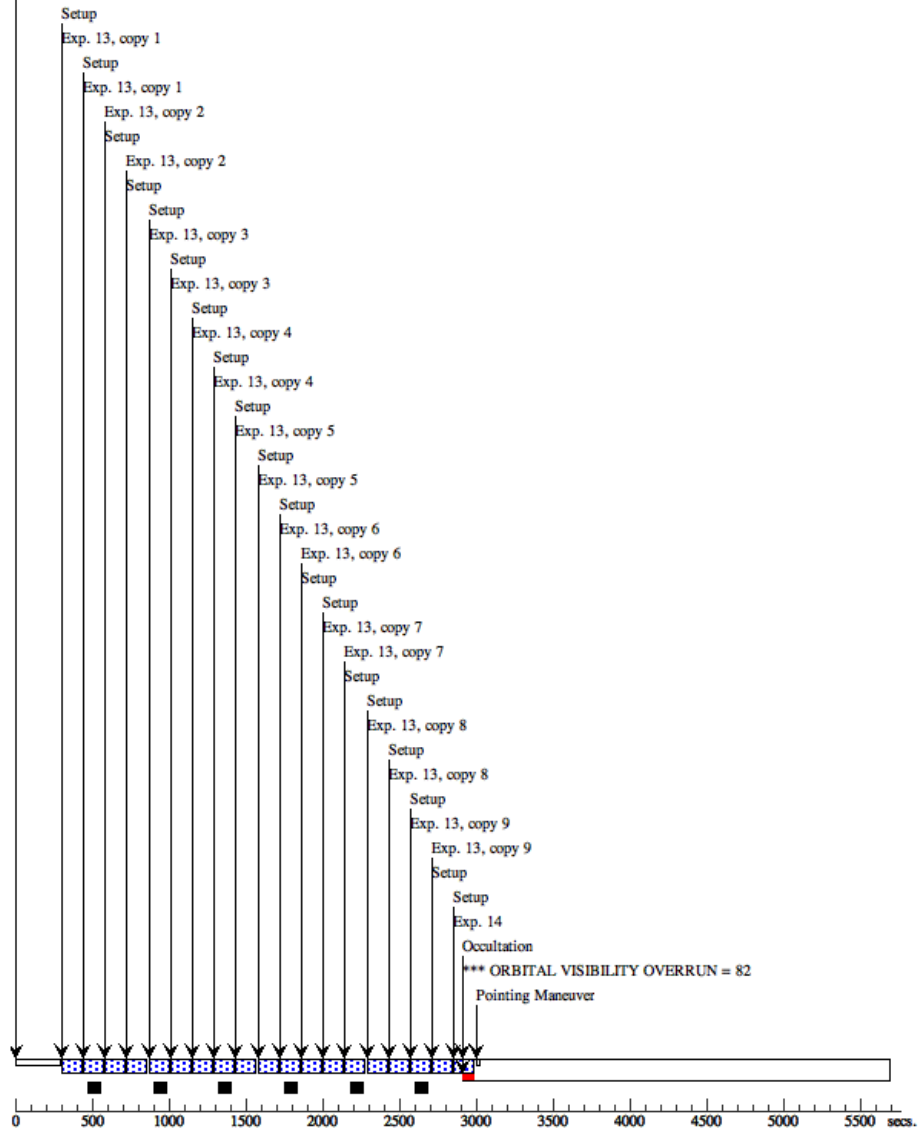
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Proposal 14682 - K2-3 d (14) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

Orbit 5
GS Reacq

Server Version: 20181130



Proposal 14682 - K2-3 d (14) - A Search for Methane, Ammonia, and Water on Two Habitable Zone Super-Earths

