



# CHEOPS Proposal Handling Tool Phase 2 (PHT2) Guidelines (v\_1.5)

Prepared by Nicolas BILLOT & Alexis Heitzmann on behalf of the CHEOPS Science Operations



# URL: https://cheops.unige.ch/pht2/

CHEOPS Propo	sal Handling Tool – Phase 2 –	
Target and Programme Information Exposure Time Calculator Log	In	
Log In		
Username or E-mail		
Password		
Remember Me Log In		
Forgot your password ? Self service password reset		
ETC Help Release note	UNIVERSITÉ DE GENÈVE	Note: PHT2 was tested on Chrome, Safari and Firefox web browsers.

Please consult the <u>CHEOPS Observers Manual</u> for details on how to observe with CHEOPS



## Proposal Handling Tool Phase II PHT2 Guidelines

Please login with username and password received from SOC	Target and Programme
	Log In
	Username or E-mail zwicky
	Password
	CRemember Me

CHEEOF		oposal Handli	ng Tool – Phase 2 –	
Target and Programme Informatio	n Exposure Time Calculator	Log In	<b>)</b>	
Log In Username or E-mail zwicky Password 				
ETC Help Release note	Cesa	1	UNIVERSITÉ DE GENÈVE	



## Proposal Handling Tool Phase II PHT2 Guidelines

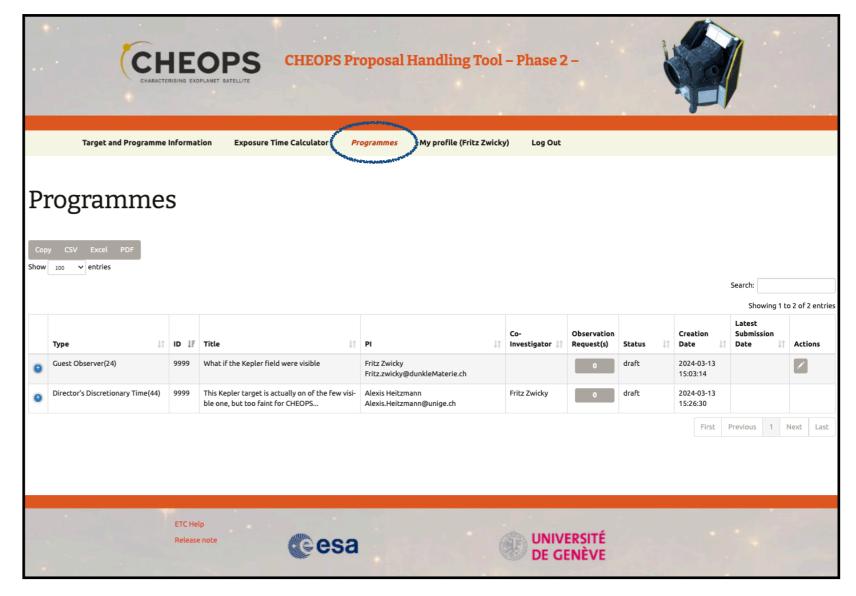
#### Your accepted "Programmes"

PHT2 programme = CHEOPS Proposal submitted to ESA

List of *accepted* GO and DDT programmes on which *you are the PI or the additional Co-I* 

Pre-filled information ingested from Phase-1 stage (e.g. title)

You see only proposals for which you are either the PI or the additional co-I as noted in the Phase I Proposal Handling Tool web inputs



## Proposal Handling Tool Phase II PHT2 Guidelines

#### Your accepted "Programmes"

Programmes list can be exported in various formats for convenience.

		e Informa	tion	Exposure Time (	Calculator	Pro	ogrammes My prof	ile (Fritz Zwick	y) Log Out							
Dr	oaramme	IC I														
-1 m	ogramme	:2														
Сору	CSV Excel PDF															
ow	100 v entries													Search:		
														Showing	1 to 2	of 2 ent
	Type 🕸	ID J#	Title			lt	PI	11	Co- Investigator ↓↑	Observation Request(s)	Status 👃	Crea		Latest Submission Date	11	Actions
•	Guest Observer(24)	9999	What if	the Kepler field wer	re visible		Fritz Zwicky Fritz.zwicky@dunkleMate	rie.ch		0	draft	2024	-03-13 8:14			r
Abstr	act:	Faking to c	observe Ke	epler-186f, Kepler-4	52b, and Kepler-4	42b										
otal	Number Of Orbits:	60														
		Name	I	RA	DEC	Pr	iority Magnitude	Approved Nb	Of Orbits	Executed N	b Of Orbits		Observ	ation Categor	y	
		Kepler-186	5	298.652720	43.95500	1	11.900	10.00					time cr	itical		
arge	:5:	Kepler-452	2 3	296.003690	44.27754	1	11.400	20.00					time cr	itical		
		Kepler-442	2	295.366559	39.28006	1	10.900	30.00					time cr	itical		
9	Director's Discretionary Time(44)	9999		oler target is actuall		si-	Alexis Heitzmann Alexis.Heitzmann@unige.	ch	Fritz Zwicky	0	draft	2024	-03-13			
			ote one,				rickis. Telefindini e dinger					15.20		Previous 1	Ne	xt La
													First	Previous 1	Ne	xt I

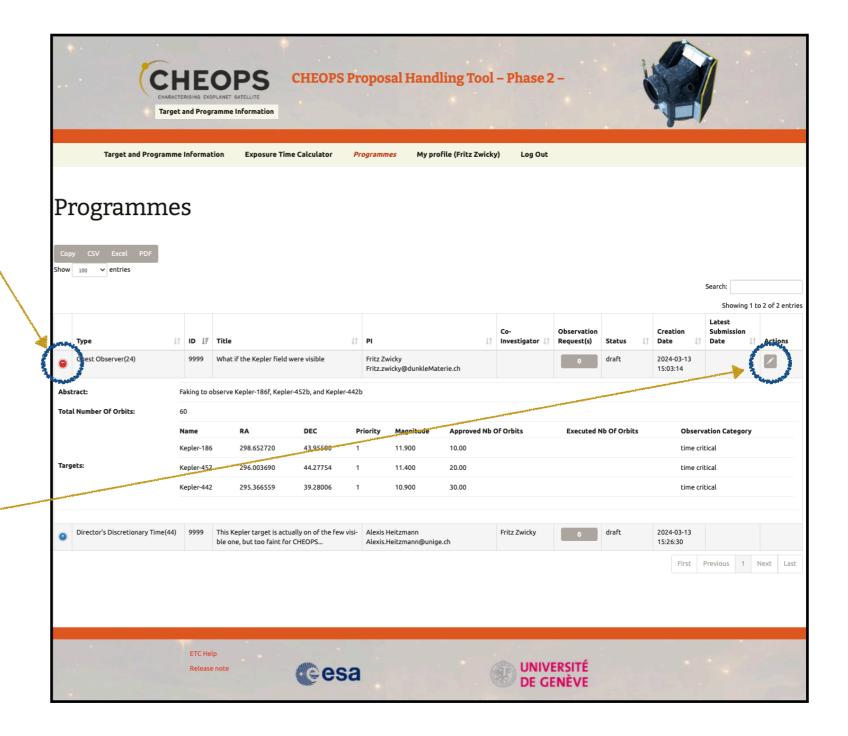


## Proposal Handling Tool Phase II PHT2 Guidelines

#### Your accepted "Programmes"

Explore Programme summary Accepted targets Accepted telescope time ESA-assigned Science priority

Programme-level information cannot be edited, except for *Title,Abstract,* and *Description of observations* using the icon





## Proposal Handling Tool Phase II PHT2 Guidelines

#### Your accepted "Programmes"

Please fill the field *Description* of observations. This helps all aspiring observers to gauge what is already done and where there might be potential for collaboration on given targets.

Please do not modify the *Title* and *Abstract* fields.

Edit I	rogramme : Type 24 (Guest Observer), ID 9999
Title*	
	What if the Kepler field were visible
Abstra	ict*
1	Faking to observe Kepler-186f, Kepler-452b, and Kepler-442b
Descri	ption of Observations
	A high-level summary of the observations of the programme. e.g. "The structure and composition of planets in the radius valley is badly known, with several compositional makeups matching the currently-existing data, notably The goal of this program is to provide better bulk densities enabling more informed structure models"
	Cancel Clear Reset Save



## Proposal Handling Tool Phase II PHT2 Guidelines

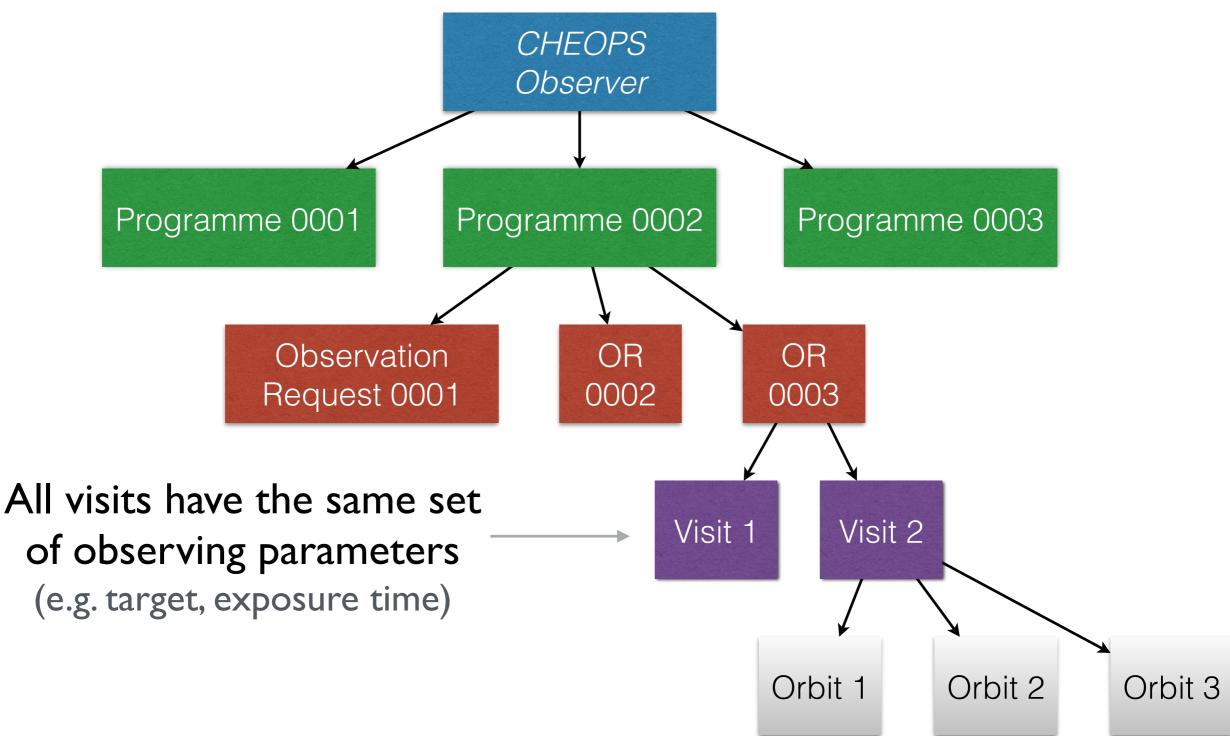
#### Your accepted "Programmes"

Your *Description of observations* now appears below the *Abstract* 

	Target	and Programme	nformat	tion Exposure Time Calcu	ilator P	rogrammes	My profile ( ) Li	og Out						
rc	ora	mme	5											
10	-61 u		,											
ору w 100	CSV Excel													
													Search:	
Ту	pe	11	ID ↓!"	Title	11	PI	11	Co- Investigator I	Observation Request(s)	Status	Cr 11 Da	eation te Iî	Showing 1 t	o 2 of 2 en
	iest Observer(	24)	9999	What if the Kepler field were vis	ible	observer11@m			0/4	submitted		24-03-13 :03:14	2024-03-13 17:35:03	
tal Nu bits:	mber Of	60												
		Name	RA	DEC	Priority	Magnitude	Approved Nb Of Orb	its	Executed Nb O	Orbits		Observat	ion Category	
		Kepler-186	298.65	52720 43.95500	1	11.900	10.00		0.00			time critic	al	
gets:		Kepler-452	296.00	03690 44.27754	1	11.400	20.00		0.00			time critic	al	
		Kepler-442	295.36	39.28006	1	10.900	30.00		0.00			time critio	al	
Dir	rector's Discre	tionary Time(44)	9999	This Kepler target is actually on		Alexis Heitzma	nn		0	draft	20	24-03-13		
				ble one, but too faint for CHEOF	·S	Alexis.Heitzma	nn@unige.ch				15	26:30		
												First	Previous 1	Next La



#### **Recap on observations hierarchy**





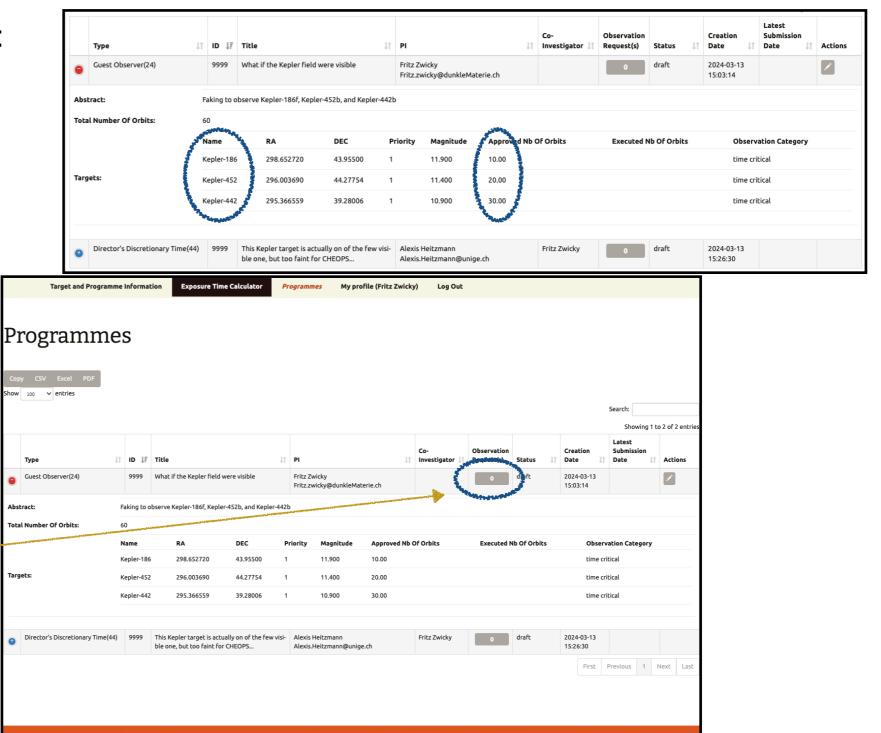
CHEOPS

## Proposal Handling Tool Phase II PHT2 Guidelines

#### **Create an Observation Request**

Take the following example of 3 targets, with respectively 10, 20 and 30 accepted orbits.

Click the observation request icon to create one.



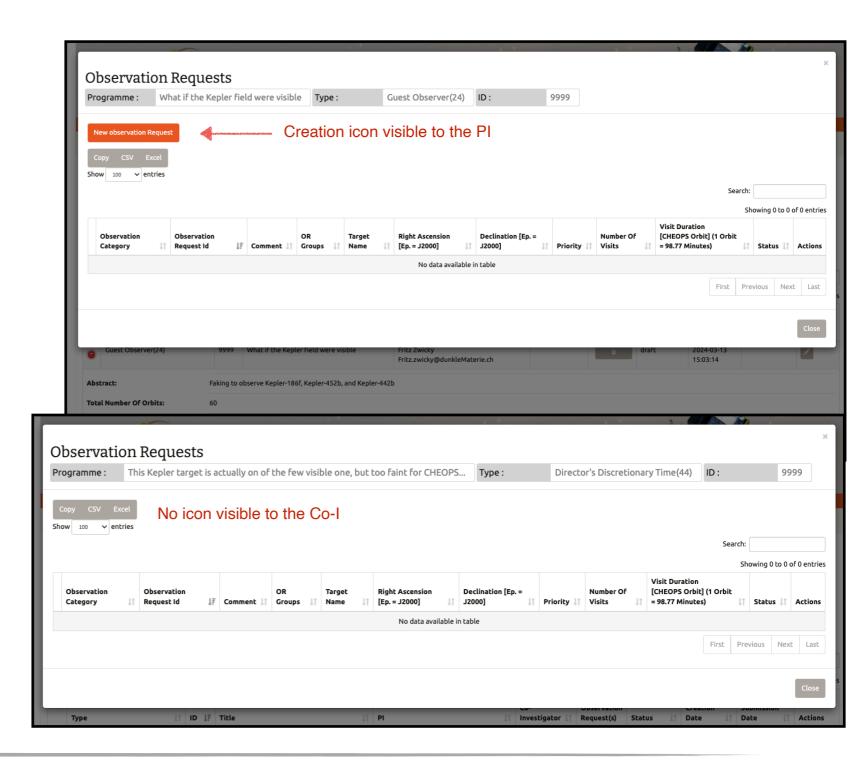


## Proposal Handling Tool Phase II PHT2 Guidelines

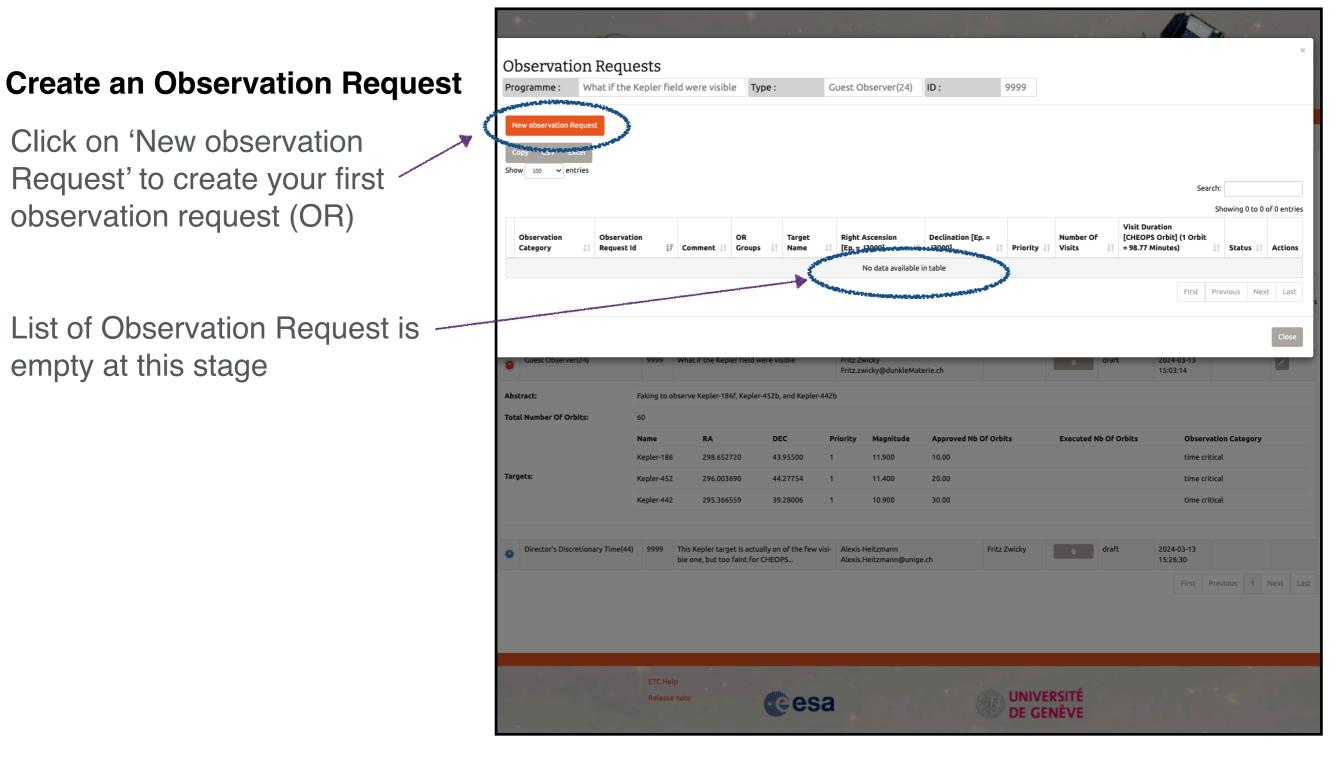
#### **Create an Observation Request**

The PI owns the programme and can create / edit / delete observation requests.

Co-Is can only consult observation requests, not edit them.









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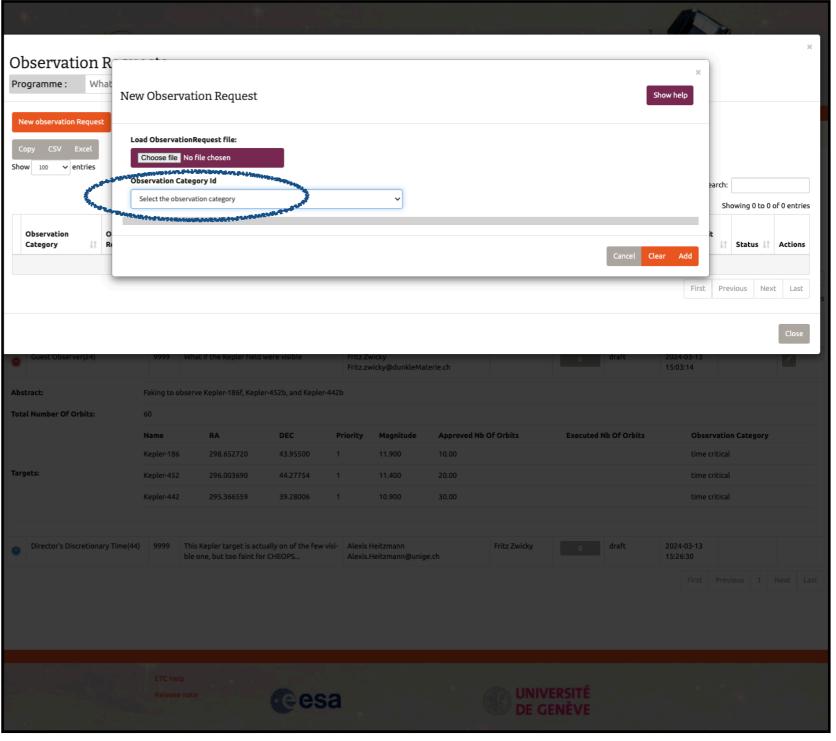
## Proposal Handling Tool Phase II PHT2 Guidelines

#### **Create an Observation Request**

Select the observation category:

- Time-Critical: Observation associated with a transit (more generally any periodic event)
- Non-Time-Critical:

Observation **not** associated with a periodic event, typically for phase curves or other filler programmes





#### Fill in the Observation Request

Define the parameters of your observation

Some parameters are mandatory (indicated with a \*)

	New Observation R	equest						× Show help			
I vation net		equest									
nme: What if t											
_	Load ObservationRequest		1								
servation Request	Choose file No file chos	sen	l								
CSV Excel	Observation Category Id				<u> </u>						
0 ✓ entries	Time Critical				~						
	Public OR description*				Comme	nt			Searc	h:	
									s	howing 0 to 0	) of 0 entri
vation Ob								li	3.77		
ory It Re	DR2 GAIA ID ["DR2 xxxx	xx]	GAIA ID n	not available	Right A	scension [ep. = J2000]*	Declination [ep. = J2000]*			Status 🕸	Actions
			_								
	Target Name (R.A., Dec.)•	Select an option	<b>r</b>	RA Proper Mo [mas/yr]*	otion	Dec. Proper Motion [mas/yr]*	Parallax [mas]*		rst Pr	evious Ne	xt Last
							0				
	Target	Target			Target Effective	Spectral Type*					
	GAIA-band magnitude*	GAIA magnit	ude error*		Temperature [K]*	Other	~				Close
Outest Observ									2		
Abstract:	Proprietary Period		Proprietary								
	First Visit [month]*		Last Visit [n	nonth]*							
Total Number Of C	18		12								
	Priority								egory		
	~										
Targets:	Visit Duration [CHEOPS orbit] (1 orbit = 9	98 77 minutoc)*	Number Of	Visits*	Minimu Efficien	m Observing					
		,, r mineces,	1			<b>CJ</b> [ <b>N</b> ]					
									-		
Director's Dis	Earliest Start Date [BJD_TDB]		Latest End [ [BJD_TDB]	Date							
Director's Dis											
	Transit Time [BJD_TDB]*		Transit Peri	od [day]*	Earliest	Start Phase*	Latest Start Phase*		1 1		
	List of Phase Ranges										
	Start	End		Minimum							
	[phase]*	[phase]*		Efficiency [%]	•						
	+										
	Exposure Time	Payload In	The Loop								
	[second]*										
	Send Data Taken During	Earth Constraints		Send Data	Taken During SAA						
							Cancel	Clear Add			

**Proposal Handling Tool Phase II** 

**PHT2 Guidelines** 



## Proposal Handling Tool Phase II PHT2 Guidelines

#### **Fill in the Observation Request**

First select a target star from the scroll-down menu (only targets accepted by the ESA TAC show in the menu)

			- B		
Observation Rec Programme : What if t	New Observation Request			Show help	×
New observation Request	Load ObservationRequest file: Choose file No file chosen Observation Category Id				
Copy CSV Excel	Time Critical Public OR description*	×	Comment		Search:
		A		<i>I</i> e	Showing 0 to 0 of 0 entrie
Observation Ob Category II Rev	DR2 GAIA ID ["DR2 xxxxxx"]	GAIA ID not available	Right Ascension [ep. = J2000]*	Declination [ep. = J2000]*	3.77
	Target Name (R.A., Dec.) Select an option Kepler-186	RA Proper Motion [mas/yr]•	Dec. Proper Motion [mas/yr]*	Parallax [mas]* 0	rst Previous Next Last
	Target         (298.652720, 43.95500)           GAIA-band magnitude*         Kepler-452 (295.003690,	Target Effec le error* Temperature		~	Close
Abstract: Total Number Of C	Proprietary Period         44.27754)           First Visit [month]*         Kepler-442           18         18	Proprietary Period Last Visit [month]*			
	Priority				egory
Targets:	Visit Duration [CHEOPS orbit] (1 orbit = 98.77 minutes)*	Number Of Visits*	Minimum Observing Efficiency [%] •		
O Director's Di	Earliest Start Date [BJD_TDB]	Latest End Date [BJD_TDB]			-
	Transit Time [BJD_TDB]•	Transit Period [day]*	Earliest Start Phase*	Latest Start Phase*	1 Next Last
	List of Phase Ranges Start End [phase]* [phase]*	Minimum Efficiency [%]*			
	Exposure Time Payload In [second]*	The Loop			
	Send Data Taken During Earth Constraints	Send Data Taken During S	AA		a -
				Cancel Clear Add	





#### **Fill in the Observation Request**

Target coordinates (*RA/Dec*) are pre-filled with user-defined values from PHT-1

*Priority* field is pre-filled with the ESA-assigned priority for this target

Observation Rec Programme : What if t	New Observation Request						× Show help		
	Load ObservationRequest file:								
New observation Request	Choose file No file chosen								
Copy CSV Excel	Observation Category Id								
Show 100 v entries	Time Critical		~	]					
	Public OR description*			Comment					
					•	•			
Observation Ob Category I Reg	DR2 GAIA ID ["DR2 xxxxxx"]	GAIA ID not	t available	Right Asc	ension [ep. = J2000]*	Declination	[ep. = J2000]*		
				298.652	720	43.95500			
	Target Name (R.A., Dec.)*		RA Proper Motion		Dec. Proper Motion		Parallax		
	Kepler-186 (298.652720, 43.95500)	*	[mas/yr]*		[mas/yr]*		[mas]*		
							0		
	Target Target Target GAIA-band magnitude* GAIA m	agnitude error*	Target Eff Temperatu		Spectral Type*				
G uvest ouser	11.900	-			Other	~			
	Proprietary Period	Proprietary P	eriod						
Abstract:	First Visit [month]*	Last Visit [mo							
Total Number Of C	18	12		]					
	Priority	001+05+00+02+00+00+00+00+00+00+00+00+00+00+00+							



#### **Fill in the Observation Request**

Click on the "*Show/Hide help*" button to show/hide additional information that will guide you to fill in individual fields.

			P	ЧT	2 G	U
ew Observation Request						
Load ObservationRequest file: Choose file No file chosen						
Observation Category Id		~				
Public OR description*			Comment			
Brief description of observation (e.g. phase cu on the PHT2 pages.	rve of planet b). Information is public	y available	Private comment, for your or observing strategy (does not			
Very brief description of the observation, which ple: "Transit of planet c", "Phase curve of planet "Stellar".			fields below) Complementary information for 'Testing alias at 100-day period companion OR#xx'.			
DR2 GAIA ID ["DR2 xxxxxx"]	GAIA ID not available	~	Right Ascension [ep. = J2000]	•	Declination [ep. = J2000	]*
DR2 6888684821851122048207	If the GAIA_ID field is empty, you ly tick this box to confirm that yo		298.652720		43.95500	
AIA ID of the target, as retrieved from the AIA archive (https://gea.esac.esa.int/archive/).	no GAIA counterpart in the DR2 a		Right Ascension (J2000) in deg	rees [0 360[	Declination (J2000) in de	grees [-90 +90]
If the target has a GAIA counterpart in DR2, then this parameter is crucial to identify the			Target Name (R.A., Dec.)*			
target among field stars.			Kepler-186 (298.652720, 43.9			
			The target identifier and its as: the PHT2 database (in degrees		es as entered in	
RA Proper Motion 🖌	Dec. Proper Motion [mas/yr]*	~	Parallax 🗸	Target GAIA-band m	agnitude*	
2.099	-4.361		5.602	11.900		
Proper motion of the target in Right Ascension (in mas/year)	Proper motion of the target in Do mas/year)	eclination (in	Parallax of the target star (in milli-arcseconds)	Brightness of in GAIA-band ( GAIA-band m used to ident among field s enter an accu	in mag). The agnitude is ify the target tars, so please	
Target GAIA magnitude error*     ✔	, Target Effective Temperature [K]●	Spectral Type		here.		
0.1 Error of the brightness of the target star in the GAIA-band (in mag)	3680 Effective temperature of the target star (in Kelvin)		f the target star			
Proprietary Period First Visit [month]*	Proprietary Period Last Visit [month]*					
18	12					
Period during which the data remain private af- ter the <b>first</b> visit has been observed. The maxi- mum duration is 18 months.	Period during which the data rem ter the <b>last</b> visit has been observe mum duration is 12 months.					
Priority Priority Level for this observa- tion request, integer from 1 to 3, with 1 being the highest priority.						
Visit Duration [CHEOPS orbit] (1 orbit = 98.77 minutes)•	Number Of Visits*		Minimum Observing Efficiency [%]*	~		
10	1 Number of visits to be scheduled	for this charac	50			
Time interval to be considered for one visit	Number of visits to be scheduled vation request	ror this obser-	Minimum fraction of the visit d spent on-source (excluding into Earth occultations, high levels	rruptions due to		
			Carcinoccalcacions, nightevels	a subyugnit, and		

**Proposal Handling Tool Phase II** 





#### Fill in the Observation Request

 Public OR description is a mandatory field. Please add a very brief description of the observation, which will be publicly accessible with the data. For example: "Transit of planet c", "Phase curve of planet b", "Occultation of planet b", "Transit search", "Stellar"

New Observation Request	Show help
Load ObservationRequest file:	
Choose file No file chosen	
Observation Category Id	
Time Critical	
Public OR description*	~
Brief description of observation (e.g. phase curve of planet b). Information is publicly available on the PHT2 pages. Private comment, for your own records or for informing the SOC about specificities of observing strategy (does not preclude the full definition of the observations in the Ob fields below)	

 Comment field may be useful for your own record, or for describing the observing strategy to the SOC / Mission planner.





#### Fill in the Observation Request

- Fill in the missing target information:

- DR2 GAIA ID is critical for on-board target identification. Field must start with "DR2 xxxxxxx". GAIA ID can be fetched from the <u>GAIA Archive</u>

- Proper motion may be critical for on-board target identification. Can be fetched from <u>SIMBAD</u>

- GAIA-band magnitude may also be critical for on-board target identification. Can be fetched from <u>SIMBAD</u>

$\mathcal{A}$	DR2 GAIA ID ["DR2 xxxxxx"] GAIA ID no	t available 🗸 Rig	ght Ascension [ep. = J2000]*	Declination [ep. = J2000]*
No.	DR2 6888684821851122048207		200:559720	43.95500
	Target Name (K.A., Dec.)* Kepler-186 (298.652720, 43.95500) * *	RA Proper Motion [mas/yr]*	Dec. Proper Motion [mas/yr]•	Parallax 🗸
		2.099	-4.361	5.602
See.	Target Target	Target Effective	Spectral Type*	
	GAIA-band magnitude* GAIA magnitude error*	Temperature [K]*	M1V (3680 K)	~
No.	11.900 0.1	3680		



## Proposal Handling Tool Phase II PHT2 Guidelines

#### Fill in the Observation Request

 Minimum observing efficiency is a critical element for the schedulability of your observation. Expected observing efficiency can be checked with the Science Feasibility Checker (Phase-1).

						1
Visit Duration [CHEOPS orbit] (1 orbit = 98.77 minutes)*	~	Number Of Visits*		Minimum Observing Efficiency [%]*	*	
10				50		and the second s
Earliest Start Date [BJD_TDB]	~	Latest End Date [BJD_TDB]	*	- Shidwana wind wane wind	Witten Market Mill	
2459053.845		2459083.845				
Transit Time [BJD_TDB]*	~	Transit Period [day]*		Earliest Start Phase*		Latest Start Phase*
2454944.8450		129.9459		0.991		0.001

Notes from the template observationRequest file that you have used for preparing the Phase-1 (feasibility check):

This</th <th>parameter defines the minimum on-source time relative to the visit duration</th> <th>&gt;</th>	parameter defines the minimum on-source time relative to the visit duration	>
</td <td>(excluding interruptions due to the SAA, Earth Occultations, and straylight constraints)</td> <td>&gt;</td>	(excluding interruptions due to the SAA, Earth Occultations, and straylight constraints)	>
NOTE:</td <td>For visits with scheduling flexibility, especially those shorter than 3 orbits, the effective</td> <td>&gt;</td>	For visits with scheduling flexibility, especially those shorter than 3 orbits, the effective	>
</td <td>observing efficiency may end up to be lower than the requested value by up to <math>\sim</math> 15%.</td> <td>&gt;</td>	observing efficiency may end up to be lower than the requested value by up to $\sim$ 15%.	>
</td <td>This may happen under special circumstances, typically when the scheduleSolver algorithm adjusts</td> <td>&gt;</td>	This may happen under special circumstances, typically when the scheduleSolver algorithm adjusts	>
</td <td>the visit start time to optimise the overall schedule, which may result in a visit being shifted</td> <td>&gt;</td>	the visit start time to optimise the overall schedule, which may result in a visit being shifted	>
</td <td>toward the SAA, Earth occultations or straylight regions.</td> <td>&gt;</td>	toward the SAA, Earth occultations or straylight regions.	>

As the observing efficiency is mainly driven by the target location in the sky, it is highly *recommended* to set the requested observing efficiency to a rather low value, *typically 50%*, for all targets, except if the science case requires very high observing efficiency (assuming this efficiency is reachable for at least one visit)





#### Fill in the Observation Request

- Use time bracketing (*Earliest/Latest Start Date*) to constrain the scheduling dates of your observations.

This might be useful for "catching" specific transits, typically for TTVs. This parameter is optional.

	Visit Duration [CHEOPS orbit] (1 orbit = 98.77 minutes)*	Number Of Visits*	Minimum Observing Efficiency [%]* 50
	Earliest Start Date [BJD_TDB]	Latest End Date [BJD_TDB]	✓
None and	2459053.845	2459083.845	
	Transit time [BID_TDB]*	Trassive effod [day]*	Earliest Start Phase*
	2454944.8450	129.9459	0.991 0.001





#### **Fill in the Observation Request**

Visit Duration [CHEOPS orbit] (1 orbit = 98.77 minutes)*	•	Number Of Visits*		Minimum Observing Efficiency [%]*	~	
Earliest Start Date [BJD_TDB]	~	Latest End Date [BJD_TDB]	~			
2459053.845 Transit Time [BJD_TDB]*		2459083.845 Transit Period [day]*		Earliest Start Phase*		Latest Start Phase*
2454944.8450	Ĵ	129.9459		0.991		0.001
				C C - S LAVACAMAN CAN DATA DATA DATA DATA DATA DATA DATA DA		

- *Earliest/Latest Start Phase* parameters are used to define the allowed start time of *time-critical* visits.

Notes from the template observationRequest file that you have used for preparing the Phase-1 (feasibility check):

This parameter defines the flexibility of a visit start time in units of planetary orbital phase.</th <th>&gt;</th>	>
Two values are defined to bound the allowed start time of the visit.</td <td>&gt;</td>	>
NOTE: Leaving no slack for the observation start time reduces the chance of being scheduled</td <td>&gt;</td>	>
NOTE: Requesting flexibility on the start time implies that the effective observing efficiency may in some rare cases</p	>
be lower than the requested value (see comment above in <Minimum_Effective_Duration )	>

The start\_phase slack allows for some scheduling flexibility. Be careful however that the slack is commensurate with the visit duration, i.e. that the visit covers the intended time period, typically the transit, for any start time during the start\_phase slack.

#### The Mission Planning System does not support cases where the visit duration is longer than the transit period





**Fill in the Observation Request** 

Valid and invalid entries are identified as such in the form.

Visit Duration [CHEOPS orbit] (1 orbit = 98.77 minutes)* 10	Number Of Visits*	, Minimum Observing Efficiency [%]*	•	
Earliest Start Date X [BJD_TDB]	Latest End Date X [BJD_TDB]			
2459053.845	s			4
Earliest Start Date must be lower than Latest Start Date	Latest Start Date must be higher than Earliest Start Date			
	Please enter a value between 2458000 and 2462000			





#### Fill in the Observation Request

For *time-critical* observations only, you may define *critical phase ranges*, i.e. specific time periods within the visit with an increased requested observing efficiency.

	Transit Time [BJD_TDB]*	✓ Transit Perio	od [day]*	Earliest Start Phase*
	2454944.8450	129.9459		0.991
	and the second			
	List of Phase Ranges	Manine and an		
	Start End	AND	Minimum	
	[phase]* [phase	J•	Efficiency [%]*	
•				

As those put stringent constraints on the schedulability of your observations, they should be used *only* if justified by the science case.

Please make sure that the *requested critical phase ranges are always contained within the visit*, for all possible start times defined by the *Earliest/Latest Start Phase* parameters.

Notes from the template observationRequest file that you have used for preparing the Phase-1 (feasibility check):

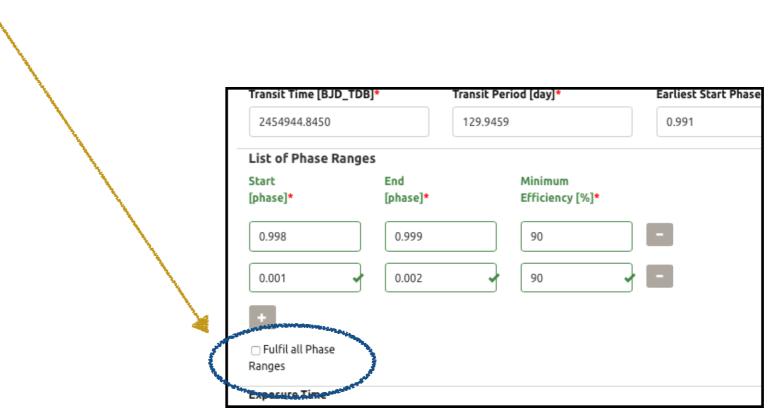
</th <th>The set of parameters below is used to define specific (orbital) phase ranges</th> <th>&gt;</th>	The set of parameters below is used to define specific (orbital) phase ranges	>
</td <td>within which the observing efficiency may be increased to a specific value</td> <td>&gt;</td>	within which the observing efficiency may be increased to a specific value	>
</td <td>Convention is that the transit is at phase=0 (or equivalently 1)</td> <td>&gt;</td>	Convention is that the transit is at phase=0 (or equivalently 1)	>
</td <td>This can be seen as a local requirement on the observing efficiency (e.g. egresses)</td> <td>&gt;</td>	This can be seen as a local requirement on the observing efficiency (e.g. egresses)	>
</td <td>NOTE: Requiring critical phase ranges is an additional constraint that will result in lower chances of being scheduled</td> <td>&gt;</td>	NOTE: Requiring critical phase ranges is an additional constraint that will result in lower chances of being scheduled	>



#### Fill in the Observation Request

When two phase ranges are specified, you may decide to request that both or only one, phase ranges are observed. This is equivalent to the logical AND / OR, respectively.

This is done by ticking the *Fulfill all Phase Ranges* box





## Proposal Handling Tool Phase II PHT2 Guidelines

#### Fill in the Observation Request

- **Exposure Time** is critical for the technical validity of your observations.

Range	ès				
Expo [seco	sure Time nd]*	•	,		
60					
🗆 Se	nd Data Ta	aken Du	uring E	arth Con	strai

 $0.2 \le t_{max} \le 0.4$ 

Please consult the <u>CHEOPS Observers Manual</u> to understand the impact of the exposure time on the on-board image stacking strategy.

nage ca ws), the ecrease	Image and imagette stackin dence of f means that one e detector has to be read-o of the duty cycle, calculate exposure times of 1 s and	image is reconut sequentially as $d = t_{exp} / d$	rded every f se / and not in par	conds. In ULTRABRIGHT allel to the exposition, intro	read-out mode (shaded oducing a significant
	Exposure time (s)	Image stacking order	Imagette stacking order	Stacked image cadence (s)	Duty cycle (%)
	<i>t</i> <sub>exp</sub> < 0.1	40	4	<i>f</i> < 48	d < 8.3
	$0.1 \le t_{exp} < 0.15$	39	3	$46.8 \le f < 48.8$	8.3 ≤ <i>d</i> < 12
	$0.15 \le t_{exp} < 0.2$	36	3	$45 \le f < 46.8$	12 ≤ <i>d</i> < 15.4

429 < f < 495

Please follow the guidelines from the Exposure Time Calculator to set up the exposure time.

Target and Programme Informa	OPS CHEOPS Proposal Handling Tool - Phase 2 -	
Target and Programme Informati		
Exposure Time	Calculator	Help \varTheta
Target G Magnitude     0.0       Target Effective Temperature     0.0       Spectral type (stellar granulation)     N/A       Exposure Time     0.001       [5]     Right Ascension       0.0     [hhzn	[K] v nm:ss / decimal deg]	
	s / decimal deg]	
Additional Parameters Specify observation duration Defined time interval Specify flux in CHEOPS passband Flux 0.0 [e-/s] Specify visit/observation efficiency	[4]	
Efficiency 0.0 [%]		
Exposure time guidelines The user must specify the exposure time; that is The desired of a low receivery that the percenta The suggested maximum exposure time is the to this suggested maximum exposure time (or of On the other hand, the suggested minimum exp	is, the time during which photons are collected to record an image (minimum allowed value is 0.001 s, maximum allowed value is 60 s). age of the full well capacity (FWC) of a pixel filled by the highest peak of the PSF is below 100%. e one where the PSF peak fills B5% of the full well capacity (to provide enough margin to clearly avoid pixel saturation). It is also recommended to select an 60s if the 85% cannot be achieved), to keep the instrumental noise to a minimum. <b>xposure time</b> is the one corresponding to the PSF peak filling 10% of the full well capacity. t exposure time and may have reasons not to follow the guidelines given above. For example, the user might be interested in shorter exposure times than r see Observers Manual, Table 2).	





#### Fill in the Observation Request

Payload-In-The-Loop (PITL) configuration:

- PITL active: spacecraft pointing is locked on the science target
- PITL inactive: spacecraft pointing solely relying on star trackers
- See CHEOPS Observers Manual for more details

#### The PHT2 automatically sets the PITL configuration to:

The PI can request to disable the PITL for bright targets, typically

in case of close and bright contaminants that could degrade the

This setting is meant for experts and at the observer's own risk.

#### Active, on targets brighter than Gmag=11

Target GAIA-band magnitude* 8	<b>&gt;</b>	
🗹 Payload In The Loop		•

pointing performance if the PITL were active.

Inactive, on targets fainter than Gmag=11

Target GAIA-band magnitude*	
Payload In The Loop	~

Changing the d and is done at y	_	n of the Payload I	n The Loop is for exp	ert users only





#### Fill in the Observation Request

Options on *data downlink* are not editable for nominal science users.

Radio buttons indicate whether data recorded on-board during SAA crossings or during Earth constraints (hard occultation and high-levels of straylight) will be downlinked.

Their current default value for nominal science is False, i.e. data taken during SAA and Earth constraints will NOT be downlinked.

Ranges Exposure Time	
Exposure Time [second]* 60	
Send Data Taken During Earth Constraints Send Data Taken During SAA	
	Cancel Clear Add



## Proposal Handling Tool Phase II PHT2 Guidelines

#### **Finalise the Observation Request**

Once your observation request is complete, please click on "Add"

Time Critical				~				
Public OR description*					Comment			
Brief description of observatio available on the PHT2 pages.	on (e.g. phase ci	urve of planet b)	. Information is pu	blicly		trategy (does not preclude		SOC about specificities of the the observations in the OR
DR2 GAIA ID ["DR2 xxxxxx"]		GAIA ID no	t available		Right Ascensi	ion [ep. = J2000]*	Declination	[ep. = J2000]*
DR2 688868482185112204820	07				298.652720		43.95500	
Target Name (R.A., Dec.)*			RA Proper Mot	ion		Dec. Proper Motion		Parallax
Kepler-186 (298.652720, 43.95	500)	× *	[mas/yr]*			[mas/yr]*		[mas]*
			2.10					5.60
Target GAIA-band magnitude*	Target GAIA magnitu	de error*		Target Effec Temperatur		Spectral Type*		
11.900	0.100			3680		M1V (3680 K)	~	
Proprietary Period First Visit [month]*		Proprietary P Last Visit [mo						
18		12						
Priority								
1 ~								
Visit Duration [CHEOPS orbit] (1 orbit = 98.77	'minutes)*	Number Of V	isits*		Minimum Obs Efficiency [%]			
10.00		•						
Earliest Start Date [BJD_TDB]		Latest End Da [BJD_TDB]	ate					
2459053.845000		2459083.84	5000					
Transit Time [BJD_TDB]*		Transit Perio	d [day]*		Earliest Start	Phase*	Latest Start	Phase*
2454944.845000		129.945900			0.99100		0.00100	
List of Phase Ranges Start [phase]*	End [phase]*		Minimum Efficiency [%]*					
0.998	0.999		90		-			
0.001	0.002	•	90		-			
Fulfil all Phase Ranges								
Exposure Time [second]*	Payload In 1	The Loop						
60.000								
Send Data Taken During Earth	h Constraints		Send Data Ta	aken During S	AA			
								ANTHON





#### **Finalise the Observation Request**

The new Observation Request now appears in the list

rog	gramme :	Wh		Observation Request							Show help	L		
Cop	w observation Re	cel		ess! observation request created successfuly (ID = 3) !										
now		nes									Close	s	earch: Showing 1	to 1 of 1 entri
	Observation Category		Observation Request Id ↓₹	Comment	OR Groups ↓↑	Target Name ↓↑	Right Ascension [Ep. = J2000] ↓↑	Declination [Ep. = J2000] ↓↑	Priority 1	Number Of Visits	[CHEOPS Orbit] (1 Orbit = 98.77 Minutes)	lî.	Status ↓↑	Actions
•	Time Critical		0003	Private comment, for your own records or for informing the SOC about specificities of the observing strategy (does not preclude the full definition of the observation in the OR fields below)		Kepler-186	298.652720	43.95500	1	1	10.00		draft	
											First	Pre	vious 1	Next Las





#### **Complete your programme**

Your newly created Observation Request now appears in the list



l		y CSV Exce	el										Search: Show	ving 1 to 1 of 1 entries
		Observation Category	ĴŢ	Observation Request Id ↓	Comment It	OR Groups	Target Name ↓↑	Right Ascension [Ep. = J2000] ↓↑	Declination [Ep. = J2000] 1	Priority I	Number Of Visits ↓↑	Visit Duration [CHEOPS Orbit] (1 Orbit = 98.77 Minutes)	1 Statu	s It Actions
(	•	Time Critical		0003	Private comment, for your own records or for informing the SOC about speci- ficities of the observing strategy (does not preclude the full definition of the observation in the OR fields below)		Kepler-186	298.652720	43.95500	1	1	10.00	draf	



## Proposal Handling Tool Phase II PHT2 Guidelines

#### **Complete your programme**

Cloning an observation request creates a new observation request (new ID) with fields pre-filled with values from the parent request. This may be used to speed up the creation of observation requests if only a few parameters change with respect to existing requests.

19		Clone Observation Re	equest							Show	help		
Observation R	_	Load ObservationRequest file Choose file No file chosen											×
Programme : Wha	if th€	Observation Category Id											
New observation Request		Time Critical				~					_		
New observation Request		Public OR description*					Comment						
Copy CSV Excel		Brief description of observati	ion (e.a. phase cu	irve of planet b). In	formation is publi	clv available		ment, for your own records or f	or informing the SOC	about specificities of the	_		
5how 100 v entries		on the PHT2 pages.				1.		rategy (does not preclude the I				Search:	
		DR2 GAIA ID ["DR2 xxxxxx"]	1	GAIA ID no	ot available		Right Ascens	on [ep. = J2000]*	Declination [	ep. = J2000]*	- 1	Showing	1 to 1 of 1 entries
		DR2 68886848218511220482	207				298.652720		43.95500				
	Observa Requesi	Target Name (R.A., Dec.)*			RA Proper M	otion		Dec. Proper Motion		Parallax	_	↓↑ Status ↓	Actions
		Kepler-186 (298.652720, 43.9	5500)	× *	[mas/yr]*			[mas/yr]*		[mas]*	- 1		
Time Critical (	0003				2.10			-4.36		5.60		draft	
		Target GAIA-band magnitude*	Target GAIA magni	tude error		Target Effect Temperature		Spectral Type*					
		11.900	0.100			3680		M1V (3680 K)	~			Previous 1	Next Last
	_					5000					_		
		Proprietary Period First Visit [month]*		Proprietary F Last Visit (m									Close
Abs	tract:	18		12								_	
Tota	al Numb	Priority											
		Visit Duration		Number Of V	'isits*		Minimum Obs						
Targ	gets:	[CHEOPS orbit] (1 orbit = 98.7	7 minutes)*	1			50	•					
							50						
		Earliest Start Date [BJD_TDB]		Latest End D [BJD_TDB]	ate								
	Direct												
		Transit Time [BJD_TDB]*		Transit Perio			Earliest Start	Phase*	Latest Start F	hase*			
		2459053.845000		2459082.84	15000		0.99100		0.00100		N		
		List of Phase Ranges Start [phase]*	End [phase]*		Minimum Efficiency [%	1•							
		0.998	0.999		90	-							
		0.001	0.003		90								
		Fulfil all Phase Ranges											
		Exposure Time [second]*	🗌 Payload Ir	n The Loop									
		60.000											
		Send Data Taken During Earl	th Constraints		Send Data	Taken During SA	4						
									1	Cancel Clear Reset	Add		





#### **Complete your programme**

Every new Observation Request appears in the list of observations in your programme.

The total time required to execute all observation requests in a given programme must remain within the time allocated by the ESA TAC

E	-		r field were visible Type : Guest Observer(	24) ID :	9999						
1.2	New observation Reque Copy CSV Excel	ist									
Sh	ow 100 v entries	•									Search:
											Showing
	Observation Category 1	Observation Request Id ↓₹	Comment	† OR Groups ↓↑	Target Name ↓†	Right Ascension [Ep. = J2000] ↓↑	Declination [Ep. = J2000]	Priority 🏥	Number Of Visits ↓↑	Visit Duration [CHEOPS Orbit] (1 Orbit = 98.77 Minutes)	Status
•	Time Critical	0006	Private comment, for your own records or for informing the SOC about specificities of the observing strategy (does not preclude the full defini- tion of the observation in the OR fields below)		Kepler-452	296.003690	44.27754	1	1	5.50	draft
•	Time Critical	0005	Private comment, for your own records or for informing the SOC about specificities of the observing strategy (does not preclude the full defini- tion of the observation in the OR fields below)		Kepler-442	295.366559	39.28006	1	1	10.00	draft
•	Time Critical	0004	Private comment, for your own records or for informing the SOC about specificities of the observing strategy (does not preclude the full defini- tion of the observation in the OR fields below)		Kepler-452	296.003690	44.27754	1	1	10.00	draft
•	Time Critical	0003	Private comment, for your own records or for informing the SOC about specificities of the observing strategy (does not preclude the full defini- tion of the observation in the OR fields below)		Kepler-186	298.652720	43.95500	1	1	10.00	draft
										First P	revious 1

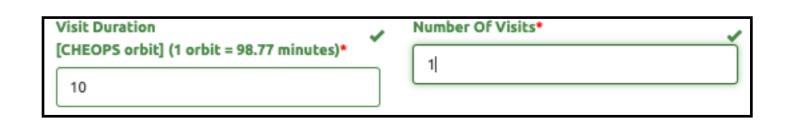




#### **Complete your programme**

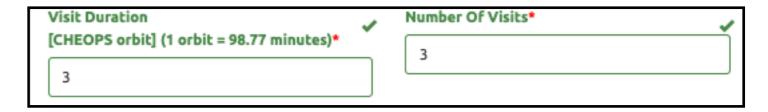
You cannot exceed the number of accepted orbits for a given target.

This example is for a target with only 10 orbits left to be allocated.

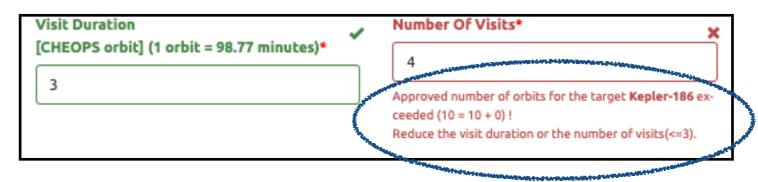




 $10 \times 1 = 10 - OK$ 











#### Submit your programme

Programmes that you own can be submitted with the **submitted** icon.

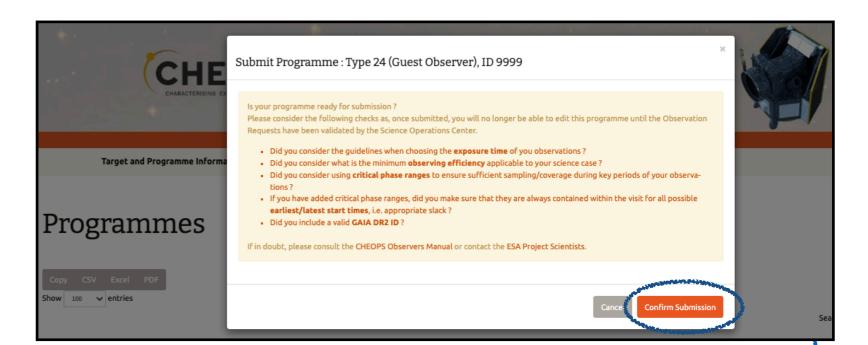
Target and Programme Ini	_											
	format	ion Exposure Time Calculator Pr	ogrammes My profile (Fritz Zwick	y) Log Out								
Programmes												
Type ↓↑ I	D ↓ <sup>n</sup>	Title 11	PI It	Co- Investigator 🎼	Observation Request(s)	Status		Creation Date 1	Latest Submission Date	-		
Guest Observer(24) 9	999	What if the Kepler field were visible	Fritz Zwicky Fritz.zwicky@dunkleMaterie.ch		0/4	draft		2024-03-13 15:03:14				
Director's Discretionary Time(44)	999	This Kepler target is actually on of the few visi- ble one, but too faint for CHEOPS	Alexis Heitzmann Alexis.Heitzmann@unige.ch	Fritz Zwicky	0	draft		2024-03-13 15:26:30				
	ETC He				ERSITÉ			First	Previous	1 Next Last		



## Proposal Handling Tool Phase II PHT2 Guidelines

#### Submit your programme

Programmes that you own can be submitted with the *con* icon.



Only submit your programme if it is complete You cannot modify your programme or observation requests after it is submitted!

Date of submission is recorded. Status changes to "Submitted".

				5						Showing Fee	2 of 2 encires
		Type It	ID ↓!"	Title It	PI It	Co- Investigator ↓↑	Observation Request(s)	Status 🕸	Creation Date ↓↑	Latest Submission Date 11	Actions
(	•	Guest Observer(24)	9999	What if the Kepler field were visible	Fritz Zwicky Fritz.zwicky@dunkleMaterie.ch		0/4	submitted	2024-03-13 15:03:14	2024-03-13 17:35:03	
	Đ	Director's Discretionary Time(44)	9999	This Kepler target is actually on of the few visible one, but too faint for CHEOPS	Alexis Heitzmann Alexis.Heitzmann@unige.ch	Fritz Zwicky	0	draft	2024-03-13 15:26:30		

Note: The *icon* allows you to modify only the Title, Abstrait and Description of Observations





#### Submit your programme

Observation requests are in status "submitted". They cannot be edited anymore.

Oł	servatio	n Requests	S											×
Рго	gramme :	What if the Keple	er field were visible	Type : Guest Ol	bserver(2	24) ID :	9999							
	Copy CSV Excel Show 100 ∨ entries Search: Showing 1 to 4 of 4 entries													4 of 4 entries
	Observation Category	Observation	Comment		11	OR Groups	Target Name ↓†	Right Ascension [Ep. = J2000] ↓↑	Declination [Ep. = J2000] ↓↑	Priority 🎼	Number Of Visits ↓↑	Visit Duration [CHEOPS Orbit] (1 Orbit = 98.77 Minutes)	T Status	Actions
•	Time Critical	0006		ur own records or for informing the S rving strategy (does not preclude the n in the OR fields below)		(PR249999_TG0004)	Kepler-452	296.003690	44.27754	1	1	5.50	submit- ted	٥
•	Time Critical	0005		ur own records or for informing the S rving strategy (does not preclude the n in the OR fields below)			Kepler-442	295.366559	39.28006	1	1	10.00	submit- ted	
•	Time Critical	0004		ur own records or for informing the S rving strategy (does not preclude the n in the OR fields below)		(PR249999_TG0006)	Kepler-452	296.003690	44.27754	1	1	10.00	submit- ted	Ð
•	Time Critical	0003		ur own records or for informing the S rving strategy (does not preclude the n in the OR fields below)			Kepler-186	298.652720	43.95500	1	1	10.00	submit- ted	٥
												First Previo	us 1 Ne	ext Last
														Close





You will be notified by email if/when your targets are scheduled for observations, typically a few days before the actual observations are executed.

You will receive another email when your data are available on the CHEOPS archive for you to download.

