Rounding up
"Getting Ready for PLATO"

"Getting involved in the PMC" | Wednesday 13/09/2023

- Stellar activity

- What can we learn from PLATO ages?

- Preparatory data to get stellar parameters

- Proprietary targets and the prime sample

- Data releases

- Organisation and operation of the GOP

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- Proprietary targets and the prime sample

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From the ESA Steering Committee approved Science Management Plan

1. The proprietary targets allocated to the PMC will be selected using the first three months of PLATO observation of each field, in the following way: from the "prime sample" with brightness mv < 11 for each sky field, the stars belonging to the lowest quartile (25 %) of the noise distribution will be identified. Of these, 25% will be selected, with a noise distribution similar to that of the original sample.

2. The maximum number of proprietary targets allocated to the PMC will not exceed 2000 in total over the 4 years of nominal mission duration. The proprietary target list will be submitted by the PMC to ESA for review and approval by the ESA Advisory Structure;

3. The GOP Team(s) will be fully involved by the PMC in the scientific exploitation of the proprietary targets.

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A "prime sample" will be defined by the PMC consisting of PIC targets to be observed with high PLATO accuracy. It is expected that the size of the "prime sample" will not be larger than 20,000 stars. The "prime sample" with the targets in the first LOP sky field will be **defined nine months before launch and updated six months before every satellite sky field pointing**. A ground observation programme (GOP) will be performed for planetary candidates within this sample during the course of the mission.

Before launch, the final observation plan, the PIC and the definition of the "prime sample" will be prepared by the PMC, under the supervision of the SWT and reviewed under the responsibility of the ESA Advisory Structure. Reviews will be done in the course of operations as needed, following updates of the PIC and of the "prime sample" and/or based on the findings of PLATO.
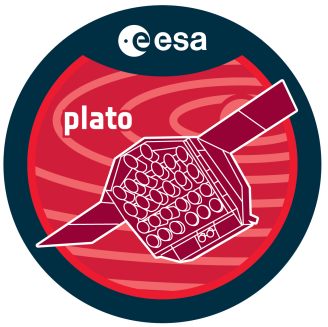
Different options for the selection have been explored.

- Option 1:
    - P1 + P2 + P5-V11 + P5-80ppm
    - Take all of P1 and P2
    - Add stars from P5 that have either V<11 or NSR<80ppm

- Option 2:
    - "smart sample"
    - Define a metric taking into account NSR, stellar radius, transit detectability, stellar magnitude, etc.
    - Select stars based on this metric.
    - **This is the preferred option, and the metric definition is being worked on.**

PMC		ESA		Community	Processing	Releases	# targets
GOP	PDC/PSM	SOC	Archiv				
	L0/L1 generation and/or validation				<3 months (Q1: 6 months)		
	Generate L2	validated L0, L1, L2 → archive → public			**Legacy targets:** <3 months	**Legacy targets:** End Q1 + 9 months end Qn + 6 months	~220 000
	all targets, except PMC propriety targets					After Q2, *releases occur every 3 months*	
					Prime sample: <=1 year	**Prime sample:** end Q1 + 1.5 years end Qn + 1.25 years	<20 000
Lg for prime & propriety samples					target dependent		
	L3 for prime & propriety samples	validated L0, L1, L2, L3 → archive → public				<6 months after completion of ground-based observations	Prime sample: <<10 000 Propriety sample: <2 000

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The release of PLATO data products of the "prime sample" will be as follows:

1. After delivery of Level-0 and Level-1 products for the first three months of observations by the SOC to the PMC, Level-1 data validation (and updating of the pipeline) will last for six months;

2. After delivery by the SOC to the PMC of Level-0 and Level-1 products for subsequent three months observing periods, the Level-1 data validation will last for three months;

3. Level-0, Level-1 and Level-2 products for each observing quarter will be publicly released via the PLATO science archive **as soon as possible after scientific validation, but no later than one year after each Level-1 validation period**, to allow for the consolidation of the planet candidate list and the initiation of the ground-based observations by the GOP Team(s).
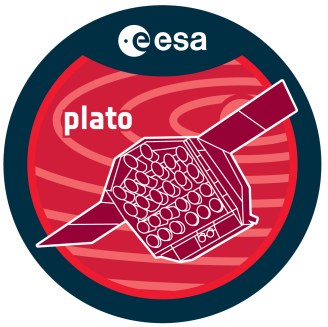
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4. Level-3 data of the "prime sample" (delivered by the PMC), and their ground-based associated observations (provided by the GOP Team(s)), will be publicly released. **immediately after the publication of the planetary parameters, or as soon as possible but no later than six months after the completion of the ground-based observations**

5. When papers are published by the PMC and/or GOP Team(s) using data from proprietary targets, the validated data associated with those targets will be simultaneously publicly released in the PLATO Science Archive.

6. Ground-based observations data for targets in the "prime sample", which are not confirmed to be planets, will also be made publicly available in the PLATO Science Archive as soon as possible but no later than six months after the ground-based observations for each target have been performed.

	PMC		ESA		Community	Processing	Latest release dates	# targets
	GOP	PDC/PSM	SOC	Archiv				
		L0/L1 generation and/or validation				<3 months (Q1: 6 months)		
	Generate L2		validated L0, L1, L2 archive → public			**Legacy targets:** <3 months	**Legacy targets:** End Q1 + 9 months end Qn + 6 months	˜220 000
			all targets, except PMC propriety targets				After Q2, *releases occur every 3 months*	
						Prime sample: <=1 year	**Prime sample:** end Q1 + 1.5 years end Qn + 1.25 years	<20 000
Lg for prime & propriety samples						target dependent		
	L3 for prime & propriety samples		validated ~~L0, L1, L2, L3~~ archive → public				<6 months after completion of ground-based observations	Prime sample: <<10 000
			Validated L3, Lg for Prime Sample Validated L0, L1, L2, L3, Lg for proprietary targets				Or on publication Or after end of post-operations	Propriety sample: <2 000

Thanks for coming

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