

Call for Proposal for SVOM General Program 2027

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1 General Information of SVOM General Program

SVOM features three types of observing programs: **the Core Program (CP)**, **the General Program (GP)**, and **the Target of Opportunity Program (ToO)**.

The GP observation schedule is compiled from a pool of requests submitted through an annual Call for Proposals (CfP), which takes place at the beginning of each calendar year and covers the full year. The 2027 CfP is open to SVOM co-investigators (co-Is) and affiliate scientists, with proposals reviewed and ranked by a dedicated Time Allocation Committee (TAC).

Both the GP and ToO programs have dedicated observation time allocations during the nominal and extended mission phases (see Fig. 1).

2 High-level Principles of SVOM General Program

• Perimeter of the call:

- The CfP invites two types of observation requests: GP-PPT for anticipated pre-planned target observations (i.e., targets that are known with observations scheduled in advance), and GP-ToO for non-planned target observations (i.e., known targets with unpredictable active phases for which observations cannot be scheduled).
- GP-PPT proposals may include three observation mode sub-types: "once" for single observation, "monitoring" for regular monitoring at specific intervals, and "survey" for tiling of a sky region.
- **This CfP does not include** scientific investigations directly related to the main scientific objectives of the SVOM mission, such as the search for transients (including GRBs), the monitoring of newly detected transients —whether identified by SVOM or other facilities—, or the search and follow-up observations of electromagnetic counterparts of multi-messenger sources.
- Non-anticipated ToO proposals (i.e. related to the observations of new targets whose observations could not be anticipated at the time of this CfP) cannot be granted in the framework of this CfP but can be requested to the SVOM ToO scientists when observing opportunities arise any time during SVOM operations.

• Instruments

Although the main instruments used in GP and ToO observations are MXT and VT, all four instruments are considered to be involved and activated by default. The specific instrument configurations are defined by the user when submitting the GP request.

• Observation Duration

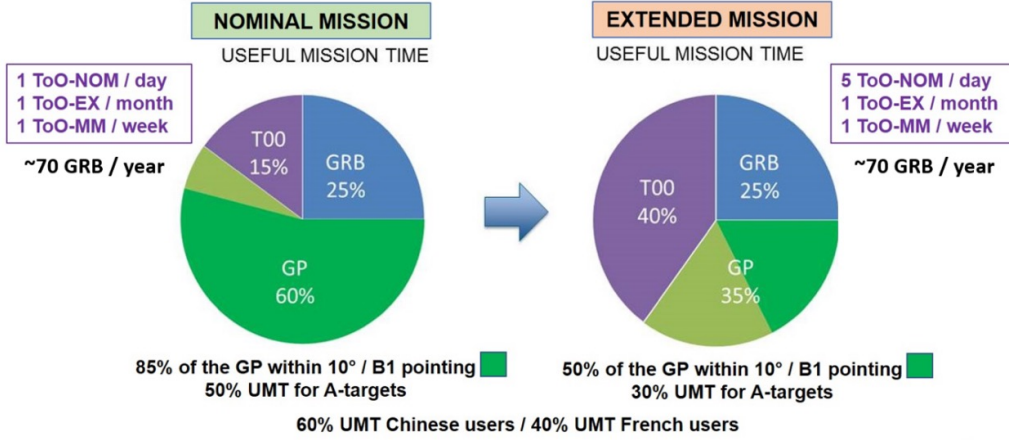


Figure 1: The scheduled observation time proportion of GP and ToO in nominal mission and extended mission phases.

A GP request for a specific target may require either a single observation ("once" mode), multiple observations at regular intervals ("monitoring" mode), or specific scheduling strategies such as tiling of a sky region ("survey" mode). The duration of a single observation can range from 1 to 28 orbits.

For any given orbit on a specific date, the effective observation time available for a target is approximately 40 minutes. However, this duration is subject to various operational and observational constraints during on-board execution:

- Sun and Moon constraints, which may inhibit observations for extended periods (up to entire periods of the year);
- Earth occultation and South Atlantic Anomaly (SAA) crossings, which can block portions of the orbit;
- Instrument unavailability due to straylight;
- Slew time between successive pointings;
- Pointing stability and accuracy limitations;
- Satellite unavailability due to outages or housekeeping operations;
- Interruptions by higher-priority observations (e.g., GRB or ToO events).

As only one GP target can be observed per orbit, the minimum observation duration specified in the GP request must be **40 minutes**.

• Priority

GRB and ToO observations take precedence over GP observations (including GP-ToO observations). Once the telescope slews back from a GRB or ToO pointing, the GP observing plan resumes as if the interruption had not occurred.

Each GP request must be assigned a priority level. The standard levels are **A** (high priority) and **B** (low priority). In addition, three intermediate levels are available: **A+**, **B+**, and **C**, primarily used for monitoring and survey-type GP requests. The **A+** level, however, can be applied to any type of GP request, whether a standard GP-PPT, monitoring, or survey.

The underlying objective of this priority scheme is to allow users to promote a subset of GP requests for higher scheduling reliability—particularly important for time-sensitive observations. A total of 50% of the GP observation time will be allocated to **A+** and **A** level targets.

For priority A and A+ targets, if the observations are interrupted by a GRB or a ToO observation, they will be rescheduled by the Mission Center.

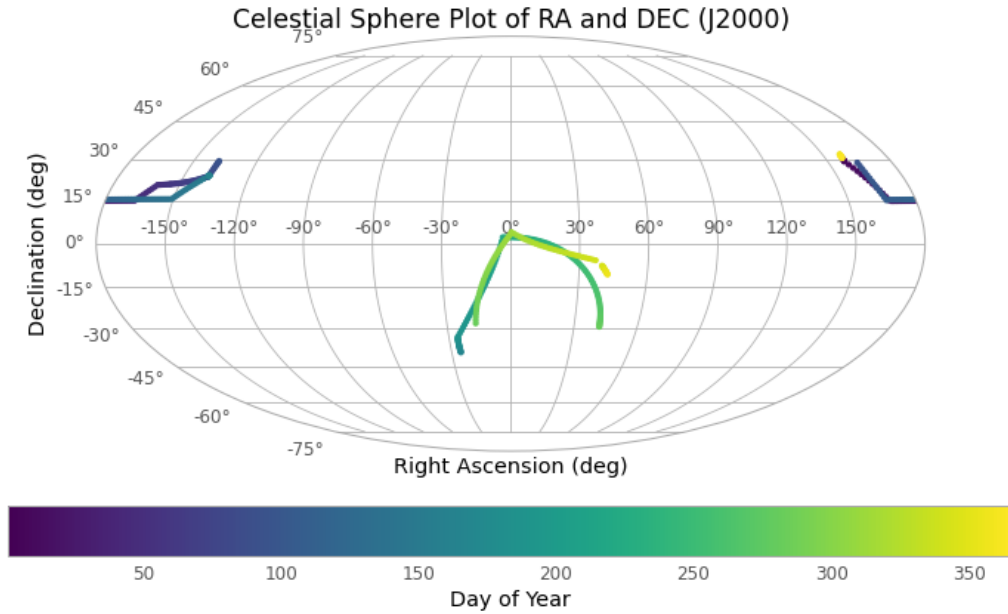


Figure 2: The B1 pointing for each day of a calendar year.

- **Reference Law**

The B1 pointing law is defined in advance and consists of a predetermined pointing direction for each day of a generic calendar year (see Figure 2). Its primary goal is to optimize GRB detection capabilities for the ECLAIRs instrument. The SSTOMP tool offers a dynamic visualization of the B1 law on the sky (see: <https://sstomp.cnes.fr/sstomp/complianceB1>).

While GP observations typically target objects located within 10° of the satellite's reference B1 attitude law, during the nominal mission phase, 15% of the annual GP observing time can be allocated to targets located outside of this reference pointing law.

A GP target is classified as a “*B1 source*” only on days when it is located within 10° of one of the satellite's B1 pointings. On all other days, it is treated as a “non-B1 source.” Non-B1 sources can be scheduled at any time during their visibility window, but their observation time will be drawn from the 15% of the annual GP time specifically allocated to non-B1 sources.

- **Time Allocation Policy**

Based on the recommendations of the joint Chinese-French Time Allocation Committee (TAC), the General Program Manager compiles a provisional one-year GP source list (referred to as the GP-Catalog). This list aims to allocate approximately 60% of the total effective GP observing time to proposals submitted by Chinese Co-Is, and around 40% to those submitted by French Co-Is.

Accordingly:

- Observation time for proposals led by Chinese Co-Is is deducted from the Chinese allocation (60%).
- Observation time for proposals led by French Co-Is is deducted from the French allocation (40%).

The scheduling of GP observations is managed by the Mission Center. During the weekly mission planning process, the actual observation time achieved for each GP target will be tracked to ensure, as much as possible, compliance with the intended 60/40 distribution between Chinese and French proposals.

It is important to note that, even if a proposal is selected, the observation of its targets is not guaranteed due to various operational constraints, such as GRB or ToO interruptions, compatibility with the B1 pointing law, and target visibility windows. In the same way, due to the operational constraints mentioned previously, the 60/40% ratio of observing time dedicated to Chinese/French groups may not be totally fulfilled.

Schedule availability:

- Long-term scheduling (providing approximate observation periods) will be released by end of 2025.
- Precise observation timelines will be published via GP tools one week prior to execution.

- **Data Policy**

- Data from the GP (either GP-PPT or GP-ToO observations) can be of three types:
 - * **Type A:** data related to a source integrated into the SVOM observation schedule over a period not covered by a call for proposal (e.g. GP data from the first year of operation);
 - * **Type B:** data related to a source whose observation has been granted as part of a CfP;
 - * **Type C:** data related to a source present by chance in the field-of-view of one of the SVOM instruments during a pointing of a source whose observation has been approved within the framework of a CfP or after a slew following a SVOM trigger.
- Type A data are available to all of the SVOM co-Is and affiliate scientists as soon as they have been uploaded on the SVOM Science Databases.
- A proposer can never ask for data rights for the entire field-of-view or data rights for all sources (known/unknown) to be found in the field-of-view. As a consequence, data on serendipitous sources detected in the field-of-view of approved Type B observations (i.e. Type C data) are publicly available to the SVOM co-Is and affiliate scientists.
- For Type B observations covered by this current CfP, the requested SVOM data will be available to all of the co-Is and affiliate scientists. However, the co-I or affiliate scientist who proposed the project will have the priority to lead the analysis, interpretation, and publication of the results. The work will take place within the framework of the Observatory Science Working Groups, and all interested SVOM co-Is and affiliate scientists will have the opportunity to actively contribute.

3 How to Apply for GP Observing Time

All proposals for the *SVOM General Program 2027* must be submitted through the SVOM GP Tools platform, available at <https://www.svom.cn/>. A GP proposal may be submitted by a SVOM co-I or by an affiliate scientist. Proposers are required to create an account in the GP Tools system in order to submit their proposals. While comprehensive instructions for using the GP Tools can be found at the following URL: <https://www.svom.cn/suss/#/svomPage>. A new version of the GP Tools will be released soon, which will support the preparation of the new observation proposal format and provide an improved user experience. The corresponding templates and documentation will also be released simultaneously. Proposers should take note of the following key points:

- **Proposal Type:**

Two types of proposals are open for submission in 2027: **GP-PPT** and **GP-ToO (ToO-NOM-AT)**.

For **GP-PPT** proposals, a complete set of parameters must be provided at the time of submission to enable the generation of the long-term observation plan.

In contrast, for **GP-ToO** proposals, the full set of parameters is only required at the time of target activation, offering greater flexibility in responding to transient or unforeseen astronomical events. a

Detailed information on observation configuration can be found in the "Observation Configuration" section ??.

- **Class of Source:**

The proposal must fall into one of the following categories:

- AGNs,
- TDEs / Clusters / Standard galaxies,
- FRBs / Magnetars / AXPs / SGRs,
- XRB-BHs,
- LMXB-NSs,
- HMXB-NSs,
- ULXs,

- CVs / Novae,
- Other Galactic sources,
- Miscellaneous.

Proposals are categorized according to the class of sources they target. Each class is overseen by a dedicated **Obs-SWG Source Working Group (SRC-WG)**, as outlined in the SVOM Obs-SWG organizational note. A single proposal may include one or multiple sources; however, all sources must belong to the same category to ensure consistency and proper evaluation by the **Time Allocation Committee (TAC)**.

To strengthen the chances of approval, proposals that involve collaboration between different working groups or institutions—particularly those fostering cooperation between Chinese and French partners—are strongly encouraged. Proposers should clearly indicate such cross-group or international collaboration within their submissions. If more than one team applies for the same sources with different scientific objectives, the TAC will encourage these teams to collaborate on the analysis in the context of the Obs-SWG working groups (even if one of the proposals is better ranked than the others).

- **Scientific Rationale and Observation Strategy:**

Each GP proposal must clearly state its scientific objectives and the intended observation strategy. To help proposers, we will provide a standardized template to clarify the required information and ensure completeness and consistency across all submissions.

For proposals involving periodic monitoring, the observation strategy must be described in detail, including:

- the duration of each individual observation;
- the interval between successive observations;
- the total duration of the monitoring campaign.

For GP-ToO proposals, the observation strategy must clearly define the triggering criteria and provide an estimate of the triggering probability.

To assist the Time Allocation Committee (TAC) in evaluating proposals, proposers are also asked to describe the following aspects in general terms:

- the total number of targets requested;
- the requested observation mode (e.g., once, monitoring, or survey);
- the total observing time required within and outside the B1 region;
- the observing cadence (for monitoring programs);
- any other relevant constraints (e.g., timing windows, Moon/Sun constraints, or coordination with other facilities).

Providing this level of detail is essential for the TAC to assess the feasibility, technical implementation, and scientific value of the proposed observations.

- **Priority:**

Proposers can set different priority levels for their submitted targets: **A** (high priority) and **B** (low priority). The TAC may consider the priorities set by proposers when scheduling observations. Note: The final priority will be determined by the TAC.

- **Observation Strategy:**

Each target/run combination constitutes an "observation". For each observation, the proposer must specify the requested observation time in the target section and select one of three observation modes:

- * **Once:** for a single observation;
- * **Monitoring:** for regular observations at specific intervals;
- * **Survey:** for paving observations or those with uncertain cadence.

Observations inside and outside the B1 region must be submitted as separate targets: B1-tagged targets will only be observed inside B1, while non-B1 targets will only be observed outside B1. If an observation program requires coverage of both regions, it must be split into two separate targets, both using the "Monitoring" mode.

For the "Monitoring" mode, proposers must specify a time window for each individual observation. This time window may be longer than the actual requested observation duration. The Mission Center will then schedule each observation at the most suitable time within the specified window during the planning process.

– **Observation Setup:**

The configuration of the VT is notably more intricate compared to that of other instruments. Proposers need to set the VT exposure parameters (e.g., exposure time) based on the physical properties of their targets, such as brightness and color. Different exposure times have a significant impact on the data volume: shorter exposure times generate large amounts of data, which may congest the data downlink channel. Therefore, the VT configuration is determined by a combination of three parameters: exposure time, exposure interval, and image windowing size. To address this complexity, we have developed several VT configuration combinations. This year, we have simplified the parameter configuration items for observation targets in the proposal to streamline the submission process.

– **Satellite:**

The satellite configuration setting includes lunar constraints. The "MOON_CHECK" parameter is configured with a default value of "VT," ensuring that the VT telescope maintains a safe distance from the Moon to avoid potential interference. If proposers require the MXT telescope to maintain a safe distance instead, they may select "MXT" as the value for "MOON_CHECK".

– **Observation Duration:**

For each target, proposers are only required to specify two parameters: the requested time for a single observation and the number of runs (for the "monitoring" and "survey" modes). For the "once" mode, the number of runs is fixed to 1. The system will then automatically calculate the total observing time required for each target, as well as the total program time based on the sum of all requested observations. This year, observation times inside and outside the B1 region are calculated separately. Proposers should be aware that only 15% of the total GP observing time is allocated to targets outside the B1 region. As a result, proposals requesting significant time outside B1 will face substantially stronger competition and will be more challenging to be accepted.

– **Completeness:**

The "Completeness" parameter does not require user configuration; its default value is set to 0.9. Proposers should be aware that once the effective observation time completed for a given target reaches 90% of the total requested time, the Mission Center may not schedule further observations for that target. Otherwise, the Mission Center will re-schedule additional observations at suitable opportunities within the current observing season to fulfil the remaining time.

• **Supporting Tools:**

We provide several supporting tools to assist proposers in setting the correct configurations:

- **Target Visibility Calculator** checks the visible time window of a source in a specified period.
Two tools could be used for the checking: SSTOMP Tools (<https://sstomp.cnes.fr/sstomp/complianceB1>) and visibility calculator (<http://fds.smoc.ac.cn:8081/zgjs/#/visibility>).
- **B1 Reference Pointing Calculator** checks the days when the given source is compatible with the B1 reference pointing in a year.
Two tools could be used for the checking: SUSS tools (<https://svom-gwacn.cn/gp/tools/CheckB1.action>) and SSTOMP Tools (<https://sstomp.cnes.fr/sstomp/complianceB1>).
- **VT Exposure Tool** allows user to calculate the VT exposure time or signal-to-noise ratio based on the optical brightness of the given source.
The tool is accessible at: <https://svom-gwacn.cn/gp/tools/CalcExptimeVT.action>.
- **Target List Formate Converter** enables user to convert the target list in EXCEL table to JSON file, which is compatible with GP tools for bulk importing.
The tool is accessible at: <https://svom-gwacn.cn/gp/tools/GPTargetTrans.action>.

4 Important Notes

1. A cumulative total of N days (this number will be confirmed by the PIs later on) of observations with Sco X-1 in the ECLAIRs field of view can be accommodated at most. Consequently, priority will be given to the highest-ranked proposals requesting this observing configuration. Proposers are therefore encouraged to provide a particularly strong scientific justification for such observations. The presence of Sco X-1 in the ECLAIRs field of view for a given observation can be verified using SSTOMP.
2. Regarding GP data release, the release of SVOM scientific products for the 2026 observing season has begun. Users can query and download data from all instruments via the Chinese SUSS GP tools and the French iFSC SDB.