

XPOSAT PROPOSAL PROCESSING SYSTEM (XPPS)

XPoSat Proposal Submission Guide

A default community user perspective

This proposal submission guide details the step-by-step process for submitting a proposal for science observation through XPoSat using XPoSat Proposal Processing System (XPPS). For information on various payloads on XPoSat, refer to payload specific documentations.

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1. XPoSat Proposal Processing System – A brief overview

XPoSat is a space observatory mission to observe bright celestial X-ray sources in the sky. A list of 64 potential X-ray targets is identified for science observations through XPoSat. It has two instruments onboard: POLIX & XSPECT. More details on the instruments in XPoSat can be obtained at <https://www.isro.gov.in/XPoSat.html> .

The instruments do not offer any configuration for observations and operate in their respective default mode except for calibration requirements by the respective instrument teams. XPoSat Proposal Processing System (XPPS) is a web application hosted at Indian Space Science Data Center (ISSDC) to cater to the proposal submission, review and observations planning. The proposal processing system for XPoSat can be accessed at <https://xpps.issdc.gov.in/> . To access the application, the user needs to register to the application. XPPS is integrated with ISSDC's Single Sign on (SSO) service to manage the user-identity in a secure way. If a user is already registered in ISSDC through ISSDC's SSO, registration for XPoSat is not required and same credentials can be used to access XPPS. Upon registration, a "Default" role is assigned to the user which allows the user to access the functions of Public Proposal Submission through Target of Opportunity (ToO) or under the Announcement of Opportunity(AoO) umbrella. The user also gets the access to the Schedule Viewer to view the past, on-going and planned observations through XPoSat. This document is a detailed guide of various functionalities to community users of XPoSat registered in XPPS for the purpose of proposal submission, viewing the observation plan and proposal tracking from proposal submission till data availability on ISSDC's data dissemination application PRADAN.

2. New User Registration & Authentication

- Enter the XPPS web application URL in your browser <https://xpps.issdc.gov.in>. It is recommended to use latest Google Chrome browser. The welcome page of XPPS is rendered.

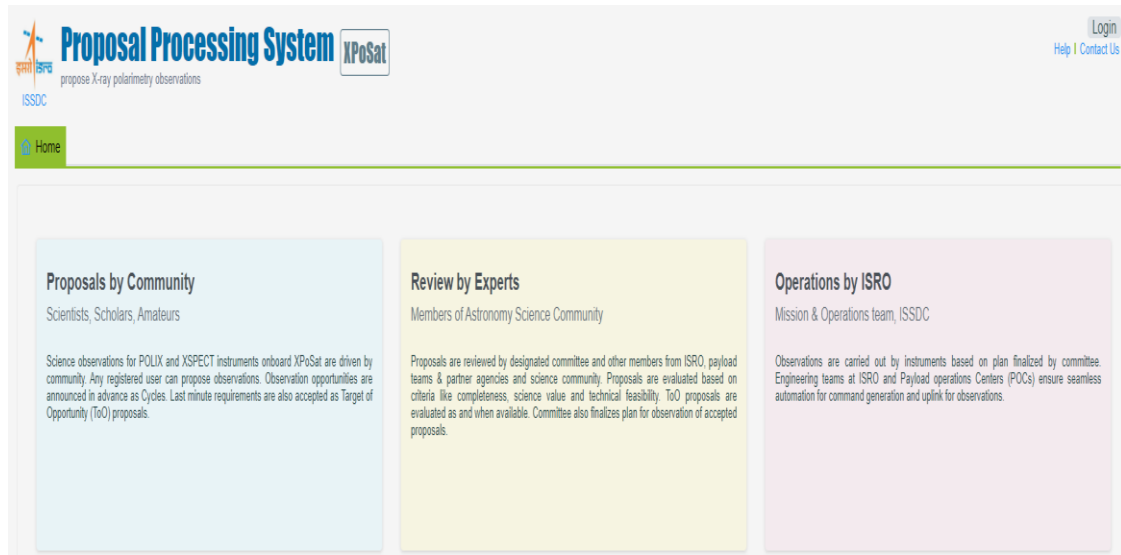


Figure: 1 Home page

- Click on the Login button on the top-right.
- The login page is rendered to the user with “Register” and “Forgot Password” options.
- Enter your user-id and password. You will be redirected to the home page of XPPS.
- If not a registered user, click on the “Register” button, enter your details to get an account verification/activation link. Once the account is activated, you will be able to login to XPPS as in Step-2.

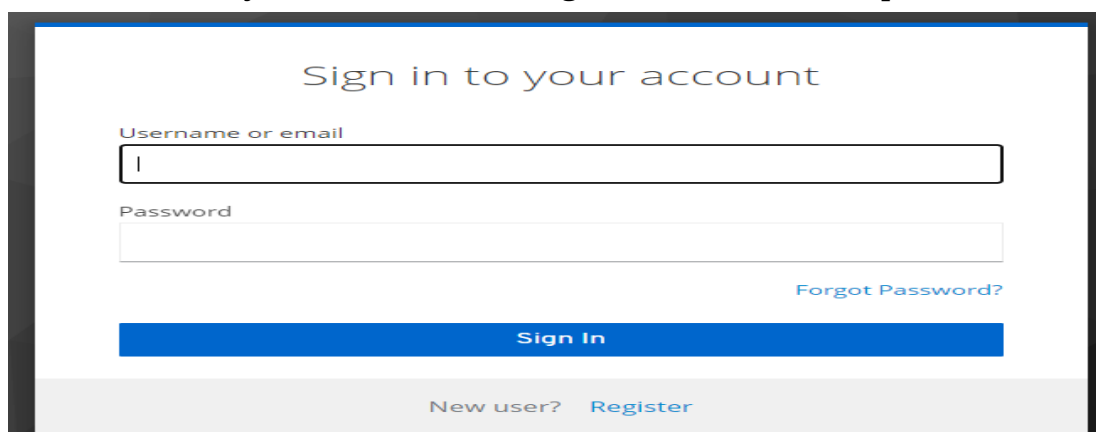


Figure 2: Login form with options to register new user and reset password

- You will see “Proposer” tab and “Schedule” tab.



Figure 3: Home page after successful login

3. Proposal Functions

3.1 Proposal Preparation

- Target Visibility Check: The proposer shall first check if the target is viewable through XPoSat in the desired time-frame. To check this, the proposer is required to access the XPoViewer Web Application (<https://webapps.issdc.gov.in/XPoViewer/>)
- In XPoViewer, the proposer shall enter
 - ✚ Target-name
 - ✚ Target coordinates (Right Ascension and Declination in degrees in J2000 frame of reference)
 - ✚ Start-time, End-time
- The proposer shall click on Check Visibility. The visibility plots shall be generated depicting the available time against the total SAA free eclipse time. As XPoSat source observations are possible only during the SAA-free eclipse, the plot gives a fair idea about the effective utilisation of the observation time for the given source.
- The plots shall be downloaded by the proposer for uploading later on XPPS for a quick reference by the review committee.



XPoViewer - XPoSat Targets Visibility Analysis Tool

[Check Target Visibility](#)[Contact Us](#)[User Guide](#)

Target Name *

Resolve from NED

Resolve from Simbad

Target coordinates in J2000 frame of reference. Specify RA/DEC in degrees

Right Ascension

[0-360]

Declination

[-90,+90]

Target visibility during given start time and end time

Start Date

dd-mm-yyyy

End Date

dd-mm-yyyy

Ephemeris available only between 01-JAN-2024 04:03:06 143 and 14-JAN-2026 16:08:05 251. Please restrict within this range.



user-response to puzzle

Get Target Visibility

Clear

Constraints applied for the computation of view periods

1. The view period for the source will lie in the SAA-free-eclipse region.
2. The source shall be free from Earth Occult.
3. The source shall be away from the sun by 90 degrees.
4. At least one star sensor shall provide update at the start of the view period.
5. Negative yaw to sun constraint of 50 degrees is applied.
6. After applying all the above constraints, the minimum view period for the source should be at least 5 minutes.

Figure 4: XPoViewer application to check target visibility through XPoSat

3.2 Proposal Submission

- Click on the “Proposals” tab. You will see two sub-tabs: “Create”, “Search”. If any proposal has been sent back for revision, an additional tab “Revisions” will be also rendered.
- Create Proposal is the default tab rendered to the user.

[Create](#) [Search](#)

Science Observations

[Propose new](#)

Proposal creation is 5 steps process.

- Cover Page** - where user defines title and justification abstract. Provide if there are any related proposals and if it is a coordinated observation proposal.
- Observation Time** - where user provides observation timing inputs and justification for it.
- Instrument Configurations** - this is where user selects instrument(s) and inputs all required configuration for them.
- Attachments** - section where all the required attachments are uploaded for the proposal.
- Verify & Submit** - final step, where one would be able to verify all information provided in previous steps and finally submit the proposal.

At every step, user can save whatever inputs they provided by clicking 'Save Draft' button. All changes are also saved whenever user clicks 'Back' or 'Next' button.

[Copy existing](#)

[Save Draft](#) [Id not assigned yet \[New\]](#)

Do not press browser refresh or back button while creating or modifying proposal.

[1. Basics](#) [2. Cover Page](#) [3. Targets](#) [4. Instrument Configurations](#) [5. Observation Time](#) [6. Attachments](#) [7. Verify and Submit](#)

Do you want to save as default proposal configuration?
POC must have a default configuration saved and marked active for filling up gaps in observation plan wherever no user submitted proposals are available.

Proposal Type *

Regular

click to change

Select Cycle *

Select

▼

Related Proposals

related proposals

▼

proposals authored or co-authored by you, max 2 proposals

Add Co-Proposers

registered users

max 2 users

Add unregistered users

max 2 unregistered users

Co-ordinated Proposal

No

- If observation is planned in advance, select proposal type as Regular and select listed open cycle from drop down. If observation is emergent requirement, change proposal type to Target of Opportunity (ToO).
- Relate multiple proposals by selecting proposals with its id. Only authored or co-authored proposals can be related.
- Add co-proposers to give equal data access right to other registered users. Unregistered users shall only receive notifications, and shall be recorded for publication purpose only.
- If proposal is coordinated with agencies, provide coordination details, if agency is not listed type in manually.

Figure 5: Proposal Submission - Steps

- Creating a XPoSat proposal is a seven steps process. The proposal submission can be done in multiple sittings by the proposer. The proposer can save the proposal for later search and modification. The seven steps are described as below:

3.2.1 Basics Tab

- Proposal-Type (ToO or Regular)
- A Target of Opportunity ToO proposal opportunity is always open to support urgent observation requirements unless in case of any contingency. A regular proposal means a cycle based proposal. When an Announcement of Opportunity (AoO) cycle is opened, proposals under AoO can be submitted during the submission timeline and are considered as Regular.
- Cycle-Number (System generated)
- Related previous proposals
- List of registered co-proposers
- If the proposal is planned to be a coordinated observation with any other space based or ground based observatory. If yes, details about the same.

The screenshot shows the '1. Basics' tab of a proposal submission form. At the top, there are buttons for 'Save Draft' and 'Id not assigned yet [New]'. Below these is a warning message: 'Do not press browser refresh or back button while creating or modifying proposal.' The form has a progress bar with seven steps: 1. Basics, 2. Cover Page, 3. Targets, 4. Instrument Configurations, 5. Observation Time, 6. Attachments, and 7. Verify and Submit. The '1. Basics' tab is active. The form contains three main text input areas: 'Title' with the text 'Test Proposal' and a character count of '487 characters remaining, min 50, max 500'; 'Scientific Justification (Abstract)' with the text 'Sample Justification' and a character count of '1980 characters remaining, min 100, max 2000'; and 'Specific Remarks' with the text 'Sample comments' and a character count of '985 characters remaining, max 1000'. At the bottom of the form, there are 'Previous' and 'Next' buttons, a warning message, a 'Proposal draft is always saved when moving from one step to another.' message, and a 'Save Draft' button.

Figure 6: Proposal Submission – Cover Page

3.2.2 Proposal Cover Page Tab

- Title
- Abstract
- Specific remarks

3.2.3 Targets Configuration Tab

- Target Name
- Right Ascension (in degrees in J2000 frame of reference)
- Declination (in degrees in J2000 frame of reference)
- Target Type
- Target Category

Save Draft Id not assigned yet [New]

⚠ Do not press browser refresh or back button while creating or modifying proposal.

1. Basics 2. Cover Page 3. Targets 4. Instrument Configurations 5. Observation Time 6. Attachments 7. Verify and Submit

Target coordinates in J2000 frame of reference ⓘ

Target Name
4U 0115+634

Right Ascension (degrees) * 19.633 Declination (degrees) * 63.74

Other target attributes ⓘ

Target Type * Variable Scientific Category * High Mass X-Ray Binaries - Neutron Star

← Previous Next →

⚠ Do not press browser refresh or back button while creating or modifying proposal.

ⓘ Proposal draft is always saved when moving from one step to another.

Save Draft

Figure 7: Proposal Submission – Target Configuration

3.2.4 Primary Instrument Selection Tab

Currently XSPECT is open for guest observers. It has a default instrument configuration. By default, XSPECT will be selected.

Save Draft Id not assigned yet [New]

Do not press browser refresh or back button while creating or modifying proposal.

1. Basics 2. Cover Page 3. Targets 4. Instrument Configurations 5. Observation Time 6. Attachments 7. Verify and Submit

no configurable parameters available for the instrument. Refer to the instrument guide.

Primary Instrument XSPECT

Previous Next

Do not press browser refresh or back button while creating or modifying proposal.

Proposal draft is always saved when moving from one step to another.

Save Draft

Figure 8: Proposal Submission – Primary Instrument Selection

3.2.5 Observation Time Requirements Tab

- Proposal Duration (in days or weeks) can be entered through XPoSat. The duration specified here dictates the number of Earth days which would be spent by XPoSat for the proposed target. This includes all the additional overheads. As the source observations are possible only during the SAA free eclipse duration of the orbit, the actual source pointing will be typically between 15-25 % based on the source coordinates & seasonal variations.
- Is it a time constrained proposal (Observation to start at a given time)?
- If selected, enter the desired start-time of the observation.
- Justification for time-inputs.

3.2.6 Attachments Tab

- Target Visibility Plot from XPoViewer: The proposer needs to visit <https://webapps.issdc.gov.in/XPoViewer> and enter the target coordinates and dates during which observation is desired. The generated plot can be downloaded from the application and uploaded here.

- **Scientific & Technical Justification:** The proposer shall prepare a single document containing scientific and justification and upload here. The templates for the same are available at ISSDC website.

3.2.7 Verify and Submit

- Verify the proposal summary and submit.
- A proposal-id would be generated by the system with the following naming convention: <USER-ID>_XP1_<YY>_<XXXXXX> where USER-ID is user-id of the proposer, YY is 2 digit year and XXXXX is 5 digit sequence number of the proposal.
- For all further search and correspondences with the review committee, the above proposal-id should be mentioned by the proposer.

Save Draft

Id not assigned yet [New]

Do not press browser refresh or back button while creating or modifying proposal.

1. Basics

2. Cover Page

3. Targets

4. Instrument Configurations

5. Observation Time

6. Attachments

7. Verify and Submit

Timing inputs for observation *

Duration *

2

Unit *

Weeks

1 Days min to 4 Weeks max

Observation to start at given time

Start Date & Time (UTC)

Observation may start at any convenient time

Allow to split observation into multiple slots

No

Minimum slot size

0

Unit

Days

0 Days min size

Justification for time inputs

1000 characters remaining

- Provide duration of proposed observation
- User may choose to start observation at specific time, or choose it to flexible to start at any feasible time.
- Fixed time observations might get cancelled due to contingency or other higher priority observations. Flexible observations would be rescheduled in these scenarios
- User must provide a justification if observation must start at a given time
- User may provide if observation can be split across multiple feasible slots. It would help in scheduling if observation is long

XPoSat-1 minimum observation-time is 1 day and max upto 4 weeks

Previous

Next

Do not press browser refresh or back button while creating or modifying proposal.

Proposal draft is always saved when moving from one step to another.

Save Draft

Figure 9: Proposal Submission – Observation Time configuration

Save Draft

Id not assigned yet [New]

Do not press browser refresh or back button while creating or modifying proposal.

1. Basics

2. Cover Page

3. Targets

4. Instrument Configurations

5. Observation Time

6. Attachments

7. Verify and Submit

Proposal Details

review configuration

Id

SACHIN1987_XP1_25_00033

Target

[4U 0115+634]

Instruments

[POLIX-XSPECT]

Target configuration details

click button on right to toggle

Name

4U 0115+634

Right Ascension

19.633

Declination

63.74

Flux

low

Type

Variable

Category

High Mass X-Ray Binaries - Neutron Star

Instrument configuration details

click button on right to toggle

Type

[ToO Proposal] [Coordinated]

Flexible observation time

true

Duration

2 Weeks

Split observations

false

Please validate proposal details.

Proposal details must be validated to enable submission.

Validate first, go to previous steps to correct errors, if any.

Validate

Submit Proposal

- This is final step to submit proposal. Verify all the information, validate proposal configurations and submit proposal here.
- All the details shall be visible here if draft is saved. Detail instrument configuration panel is collapsed by default. Expand it to see all the inputs provided in earlier step.
- Click validate button to validate all the configurations. Validation failure or success message shall be displayed step wise. In case of failure, go back to previous steps to change the inputs.
- Submission button shall be enabled if proposal validation succeeds.

Figure 10: Proposal Submission – Validate and Submit Proposal

3.3. Search Proposal

- Click on Search tab (Proposals -> Search)
- Options to search proposal by proposal-id, acceptance-id, proposal-state, title, submission-date and cycle-id are available.
- Click on Search button.
- All the proposals submitted by the proposer and matching the search criteria would be rendered to the user.

Create

Search

Search Criteria

select one of the field to list proposals authored or co-authored by you

Proposal Id

contains

Acceptance Id

contains

State

Select

view state diagram

Default Configurations

Instrument

POLIX-XSPECT

Title

contains

Submission

select range

Cycle

start typing or select cycl

Search

Figure 11: Search proposal

3.3 View Proposal

- Search the proposal as described.
- Option to View the proposal is available at the bottom of the proposals table.
- Select the proposal and click on View. A popup dialog would be rendered where the proposal can be viewed by the proposer.
- Option to download the proposal as PDF is also available in the pop-up dialog.

3.4 Edit Proposal

- Only proposals in Draft State can be edited.
- Search the proposal as described in the earlier section.
- Select the proposal to be modified which is in Draft State.
- Click on Modify.
- The proposal creation wizard would be opened with the saved proposal settings.
- Continue to modify the proposal and submit as described in the earlier section.

Proposals
Timezone is UTC, date time format is YYYY/MM/DD HH:mm:ss

PDF XLSX Columns

Type ↑↓	Cycle ↑↓	State ↑↓	Id ↑↓	Acceptance Id ↑↓	Target Configuration	Observation Time ↑↓	Modified On ↑↓
All	All	All					
ToO	NA	Draft 2025/05/01 10:26:39	SACHIN1987_XP1_25_00033		4U 0115+634: [19.633, 63.74]	2 Weeks	2025/05/01 10:43:19
ToO	NA	Draft 2025/04/23 05:39:32	SACHIN1987_XP1_25_00032		4U 0115+634: [19.633, 63.74]	0 Days	2025/04/23 05:39:48
ToO	NA	Draft 2025/04/17 05:25:31	SACHIN1987_XP1_25_00031		4U 0142+61: [26.587, 61.747]	2 Days	2025/04/17 05:37:19
ToO	NA	Draft 2025/04/04 11:44:55	SACHIN1987_XP1_25_00030		null: [null, null]	0 Seconds	2025/04/04 11:45:04
ToO	NA	Draft 2025/03/27 10:53:22	SACHIN1987_XP1_25_00029		4U 0142+61: [26.587, 61.747]	0 Days	2025/03/27 10:53:48
ToO	NA	Draft 2025/03/27 08:51:07	SACHIN1987_XP1_25_00028		4U 0115+634: [19.633, 63.74]	0 Seconds	2025/03/27 09:00:02
ToO	NA	Draft 2025/03/27 08:48:55	SACHIN1987_XP1_25_00026		4U 0115+634: [19.633, 63.74]	0 Seconds	2025/03/27 08:49:30
ToO	NA	Rejected 2025/04/02 06:51:24	SACHIN1987_XP1_25_00025		4U 0142+61: [26.587, 61.747]	4 Days	2025/03/17 11:41:38
ToO	NA	Draft 2025/03/10 10:46:18	SACHIN1987_XP1_25_00024		4U 0115+634: [19.633, 63.74]	4 Days	2025/03/10 10:47:05
Default Config	NA	Draft 2025/02/25 05:17:16	SACHIN1987_XP1_25_00023		null: [null, null]	NA	2025/02/25 05:18:25

1 of 4 (33 records) << 1 2 3 4 >> 10

View Modify Delete Mark Active Copy

select proposal view details of selected proposal

Figure 12: Options to View, Modify, Delete and Copy as described

3.5 Copy Proposal

- Search proposal as described.
- Select the proposal which needs to be copied to create a new proposal.
- Click on Copy. A confirmation dialog will be rendered.
- Proceed to copy the proposal.
- The proposal creation wizard would be opened with the original proposal information. Kindly note that the observation-time and attachments will not be copied and needs to be re-entered by the proposer.
- Proceed to modify the proposal as per the requirement and submit the proposal.

3.6 Delete Proposal

- Only proposals in draft state can be deleted. A proposal once submitted cannot be deleted from the system.
- To delete the proposal, search the proposal.
- The list of proposals matching the search criteria will be rendered.
- Select a draft proposal which needs to be deleted.
- Click on Delete button and proceed on the confirmation dialog.
- The proposal is deleted.

4. Proposal Review and Revision

- After a proposal is submitted, it is subjected to a review by XPoSAT Time Allocation Committee (XTAC).
- After review, the committee chair can either **ACCEPT** the proposal for observation or **REJECT** the proposal. If the proposal needs some minor modifications for acceptance, the committee chair can also opt for sending the proposal for revision to the proposer.

- A Revisions Tab will be rendered in such case.

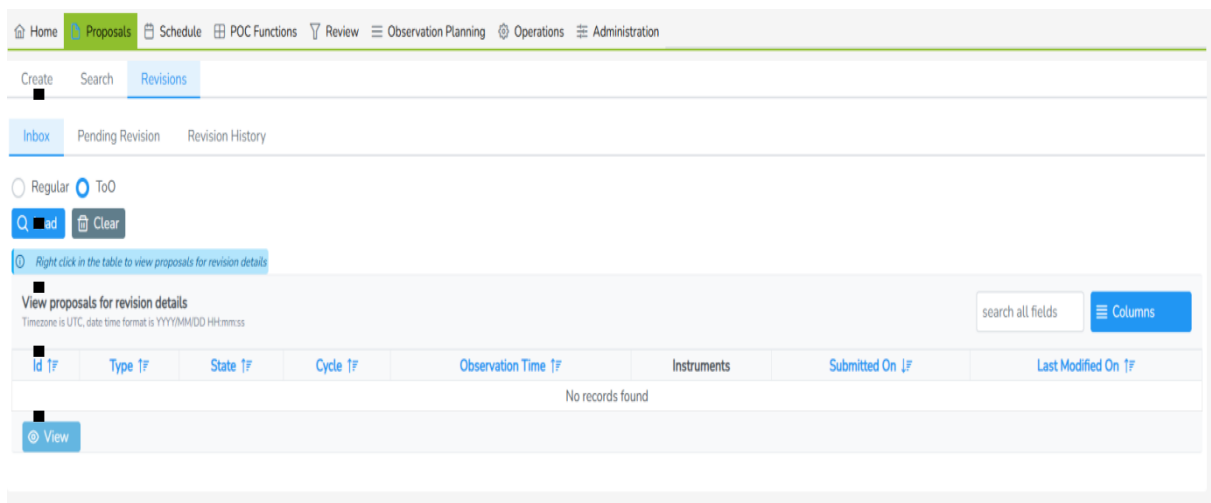


Figure 13: Revisions Tab for the proposer

- Revisions Tab has three sub-tabs:
 1. **Inbox**, 2. **Pending Revisions**, 3. **Revision History**
- Revision is a two-step process:
 1. Accept or Decline the revision request
 2. If accepted, revise the proposal as per committee suggestions.
- If a proposal is sent for revision by the review committee, an email notification will be received by the proposer.
- The proposer needs to login to XPPS and browse to **Proposals->Revisions->Inbox**.
- The proposal sent for revision will be listed.
- The proposer shall select the proposal and click on View button.
- A dialog box showing the revision request comments and option to accept or decline the revision request are rendered to the user.
- The proposer shall **accept or decline** the revision request with accept/decline comments. After accept or declination, the proposal shall be removed from the Inbox.
- If accepted, the proposal shall be moved to Pending Revisions Tab.

- The proposer shall browse to **Pending Revisions Tab**, select the proposal and click on **Revise button** to revise the proposal.
- The proposer is required to accept or reject the revision request.
- If the revision request is accepted, the proposer shall modify the proposal and submit the revised proposal again.
- At any point during revising the proposal, the proposer can save the changes and come back later for submitting the proposal.
- After doing the required changes, the proposer can submit the revised proposal.
- The revision history can be checked by the proposer in **Revision History Tab**.

5. Subscription based events notification

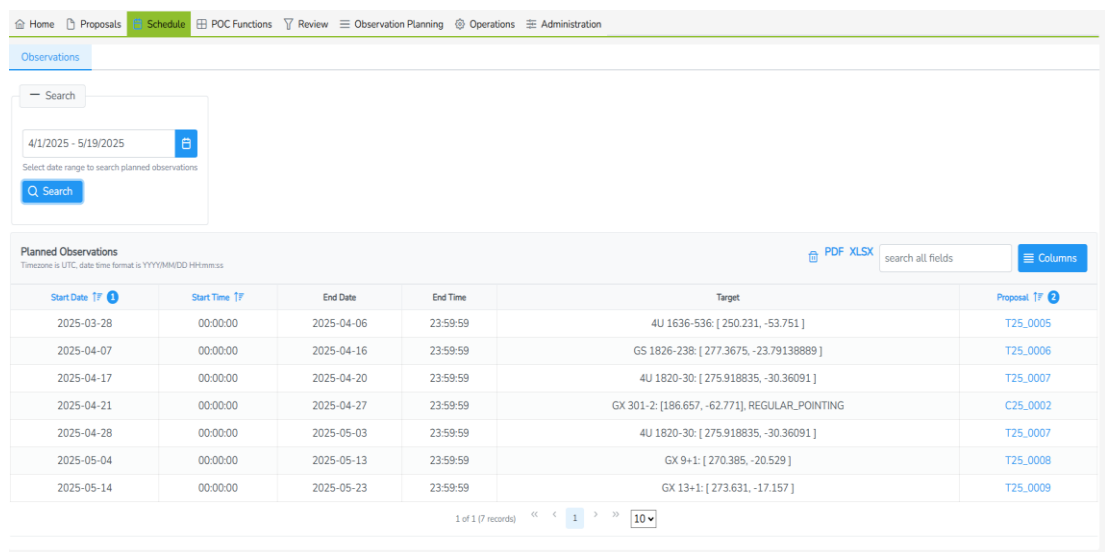
- The proposal processing system provides subscription based events notification.
- Click on the user-name. You will redirect to the profile page.
- The list of events notification supported by the system is listed.
- The user can select/deselect for the interested notifications.

The screenshot displays the 'Event Subscriptions' page within a web application. The top navigation bar includes links for Home, Proposals, Schedule, POC Functions, Review, Observation Planning, Operations, and Administration. The 'Profile' section is active, and 'Event Subscriptions' is selected under the 'Basics' tab. A dropdown menu for 'Select category' has 'Email Notifications' chosen. Below this, the interface is divided into two main panels: 'Available Events' and 'Subscribed Events'. The 'Available Events' panel lists four events with checkboxes: 'Finalized Observation Plan updated', 'Reviewer assignment withdrawn', 'Review request accepted by the reviewer', and 'Review request declined by the reviewer'. The 'Subscribed Events' panel lists five events with checkboxes: 'Observations partially planned', 'Cycle review open', 'Revision request rejected', 'Observation complete', and 'Observation Plan Finalized'. Navigation buttons (single and double arrows) are positioned between the two panels. A 'Save' button is located at the bottom left of the interface.

Figure 14: Event Subscription for required email notification

6. View Observation Plan

- Browse to Schedule Tab.
- The on-going and next scheduled observations will be listed.
- If want to see schedule for any given dates, enter the start and end-dates and submit.
- The targets & proposals scheduled during the given duration will be listed.



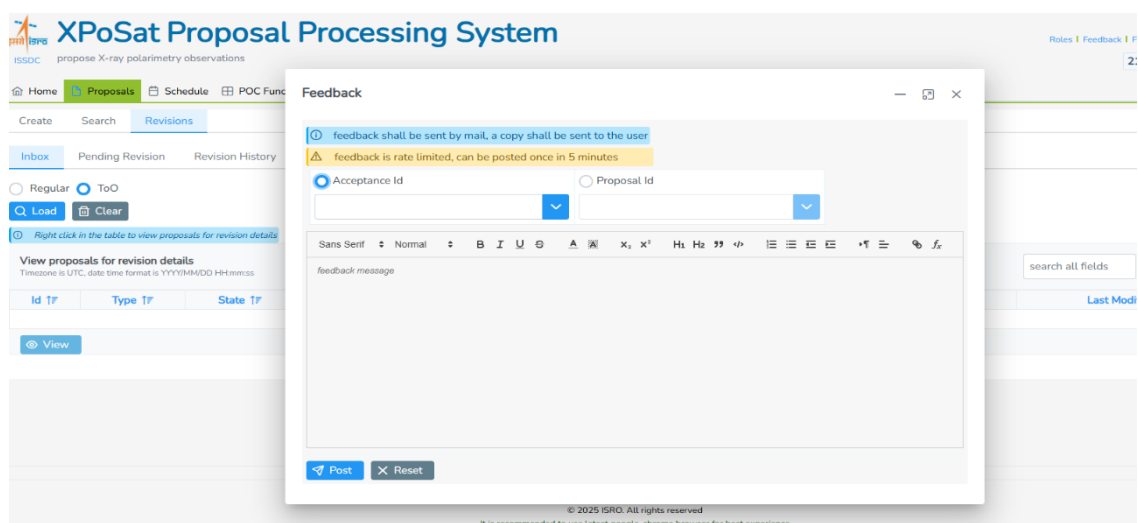
The screenshot shows the 'XPoSat Schedule Viewer' interface. At the top, there's a navigation bar with tabs: Home, Proposals, Schedule (active), POC Functions, Review, Observation Planning, Operations, and Administration. Below the navigation bar, there's a search section with a date range selector set to '4/1/2025 - 5/19/2025' and a 'Search' button. The main content area displays a table titled 'Planned Observations' with columns: Start Date, Start Time, End Date, End Time, Target, and Proposal. The table contains 7 rows of data. At the bottom of the table, there's a pagination control showing '1 of 1 (7 records)' and a dropdown menu set to '10'.

Start Date	Start Time	End Date	End Time	Target	Proposal
2025-03-28	00:00:00	2025-04-06	23:59:59	4U 1636-536 [250.231, -53.751]	T25_0005
2025-04-07	00:00:00	2025-04-16	23:59:59	GS 1826-238 [277.3675, -23.79138889]	T25_0006
2025-04-17	00:00:00	2025-04-20	23:59:59	4U 1820-30 [275.918835, -30.36091]	T25_0007
2025-04-21	00:00:00	2025-04-27	23:59:59	GX 301-2 [186.657, -62.771], REGULAR_POINTING	C25_0002
2025-04-28	00:00:00	2025-05-03	23:59:59	4U 1820-30 [275.918835, -30.36091]	T25_0007
2025-05-04	00:00:00	2025-05-13	23:59:59	GX 9+1 [270.385, -20.529]	T25_0008
2025-05-14	00:00:00	2025-05-23	23:59:59	GX 13+1 [273.631, -17.157]	T25_0009

Figure 15: XPoSat Schedule Viewer – View Observation Plan

7. Feedback

The users can submit the feedback by clicking on “Feedback link” at the top right.



The screenshot shows the 'XPoSat Proposal Processing System' interface. At the top, there's a navigation bar with tabs: Home, Proposals (active), Schedule, POC Functions, and Revisions. Below the navigation bar, there's a search section with a 'Search' button. The main content area displays a table titled 'View proposals for revision details' with columns: Id, Type, and State. A 'View' button is visible. A 'Feedback' modal window is open, showing a form with fields for 'Acceptance Id' and 'Proposal Id', a text area for 'feedback message', and buttons for 'Post' and 'Reset'. The modal also includes a rich text editor toolbar and a 'Feedback' link at the top right.

Figure 16: Feedback mechanism in XPPS