

The logo for iFSC Tools v2.7.0 is displayed in white text on a dark grey rectangular background. The text 'iFSC Tools' is in a large, bold, sans-serif font, with a stylized orange and yellow starburst graphic replacing the dot of the 'i' and the 'o' of 'Tools'. Below this, the version number 'v2.7.0' is written in a smaller, lowercase sans-serif font.

Web application developed at LAM  
dedicated for the SVOM Burst Advocates

# The Components



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iFSC-Tools is composed of 4 components :

- the NATS client to subscribe and publish notifications for the real time management
- the database to store for ex the GRB and the ToO
- the REST server to communicate between the database and the web client
- the WEB client to display the SVOM BA informations

## iFSC★Tools

903 L

NATS-CLIENT



ifsctoolsdb



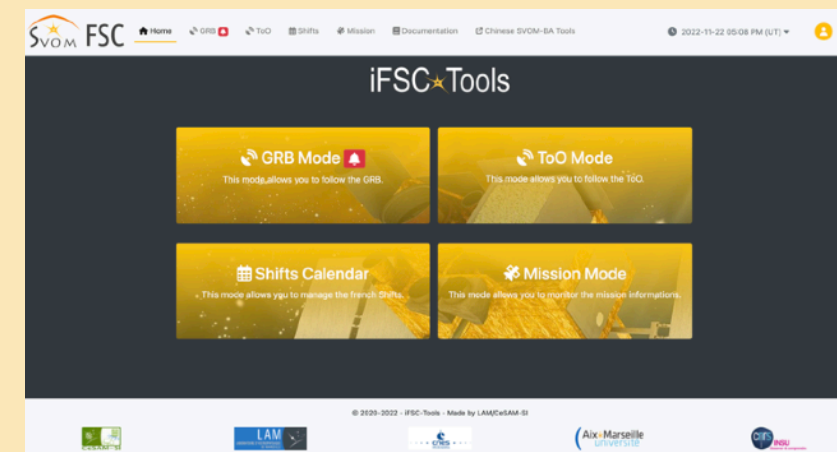
REST SERVER

896 L



CLIENT

18 kL



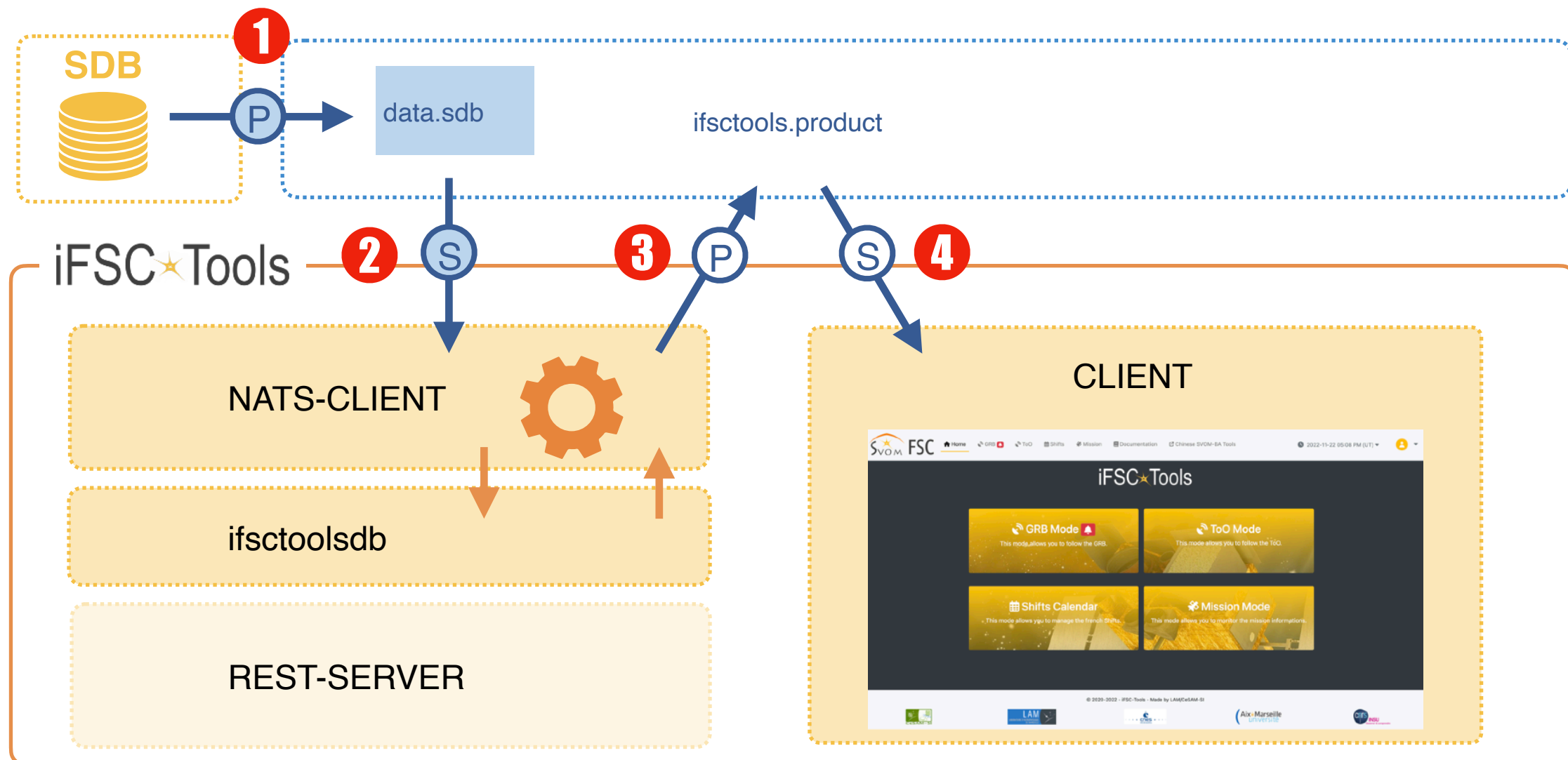
# The Real Time System



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As soon as a new product has been imported into the SVOM DB,

1. the SDB sends a notification,
2. iFSC-Tools subscribed to the SDB and TOO channels sets off the GRB and ToO online modes,
3. by publishing the products informations for the web client
4. and by subscribing to product the displays.



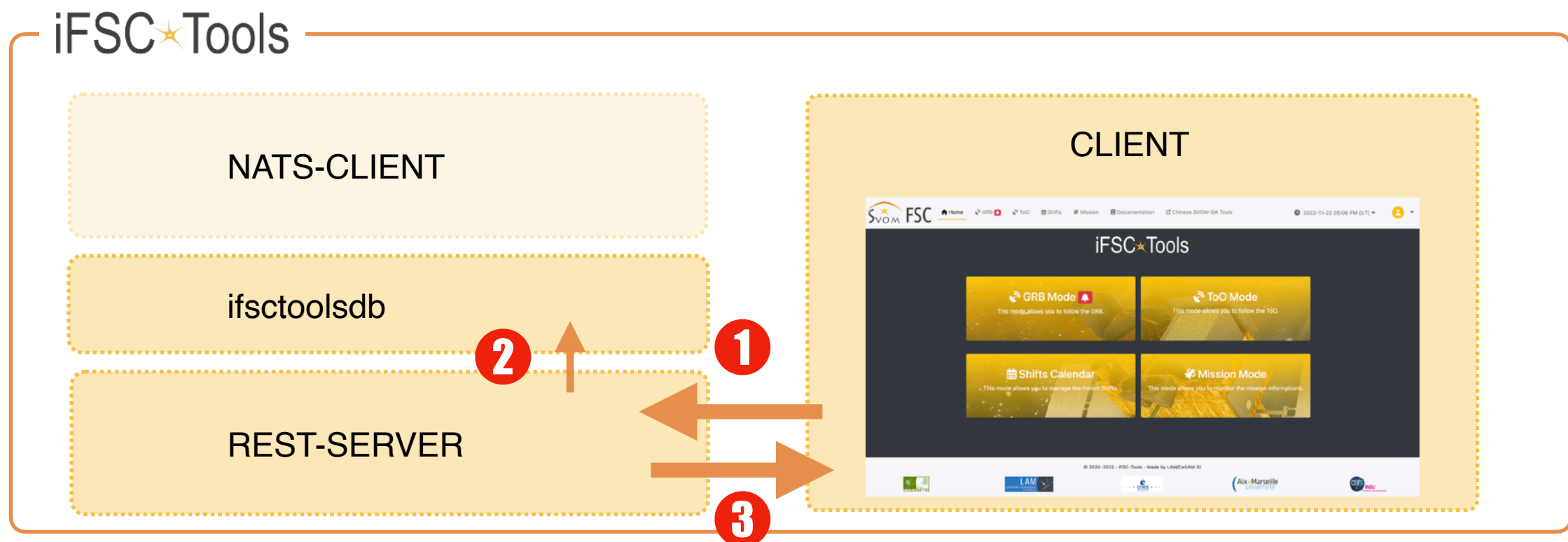
# The current System

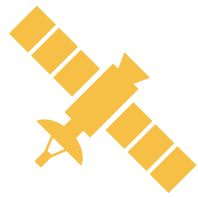


4

When the BA selected a GRB or ToO after the real time sequence :

1. the WEB client sends to the REST server a request
2. the REST server extracts data from the database,
3. and sends back the results to the WEB client for the displays.





# HOME



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After the step of authentication, the BA can access to several modules

The screenshot shows the iFSC Tools web interface. The header includes the SVOM FSC logo, navigation links (Home, GRB, ToO, Shifts, Mission, Documentation, Chinese SVOM-BA Tools), a date/time display (2023-05-02 01:42 PM (UT)), and a user profile icon. The main content area features four yellow cards with icons and text:

- GRB Mode**: This mode allows you to follow the GRB. Callout: Follow the GRB in real time
- ToO Mode**: This mode allows you to follow the ToO. Callout: Follow the ToO in real time
- Shifts Calendar**: This mode allows you to manage the french Shifts. Callout: Check the Shifts calendar
- Mission Mode**: This mode allows you to monitor the mission informations. Callout: Monitor the Mission informations

The footer contains the copyright notice: © 2020-2023 - iFSC-Tools - Made by LAM/CeSAM-SI, and logos for CeSAM-SI, LAM (Laboratoire d'Astrophysique de Marseille), CNES, Aix-Marseille université, and CNRS INSU (Observer & comprendre).



# GRB Mode



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With the GRB mode, the BA can list & follow the available or current GRB and display the available science products

The screenshot shows the iFSC Tools web interface. The top navigation bar includes the SVOM FSC logo, a Home button, and several menu items: GRB (highlighted with a red box), ToO, Shifts, Mission, Documentation, and Chinese SVOM-BA Tools. The date and time are displayed as 2023-05-02 01:42 PM (UT). The main content area features four large yellow buttons with satellite imagery backgrounds: GRB Mode (highlighted with a red box), ToO Mode, Shifts Calendar, and Mission Mode. Each button includes a brief description of its function. The footer contains copyright information and logos for CeSAM-SI, LAM, CNES, Aix-Marseille universit e, and CNRS INSU.



# GRB List



The BA can list available GRB by Year, by Date range or by GRB id

The screenshot displays the GRB List application interface. At the top, there is a search bar with a dropdown menu set to 'Search by Year' and a text input field containing '2023'. A yellow 'Search' button is positioned to the right of the input field. Below the search bar is a table with the following columns: 'new', 'burst\_id', 'created', 'num\_ecl', 'type\_ecl', 'num\_grm', and 'type\_grm'. The table contains 9 rows of data, each with a magnifying glass icon in the 'burst\_id' column. At the bottom left of the table area, it says 'Showing 10 of 9 items'. To the right of the main table, there are three smaller inset screenshots showing alternative search filters: 'Search by Date range' with a date range of '2022-03-01 - 2022-03-23' and a calendar view, 'Search by Burst\_id' with the value 'sb24011954', and 'Search by Year' with the value '2022'.

new	burst_id	created	num_ecl	type_ecl	num_grm	type_grm
	sb23041800	2023-04-30 08:46:29.366882	1164185	153		
	sb23040500	2023-04-05 14:19:52.476649	1162003	153	1162143	231
	sb23032700	2023-03-27 11:29:42.380489	1150967			
	sb23030300	2023-03-09 14:54:44.312213	1150967			
	sb23030110	2023-03-01 17:36:49.017029				
	sb23030109	2023-03-01 11:27:03.913823				
	sb23012900	2023-02-01 09:51:56.063362				
	sb23012001	2023-01-20 09:57:58.870459				
	sb23011100	2023-01-11 11:46:13.580437				



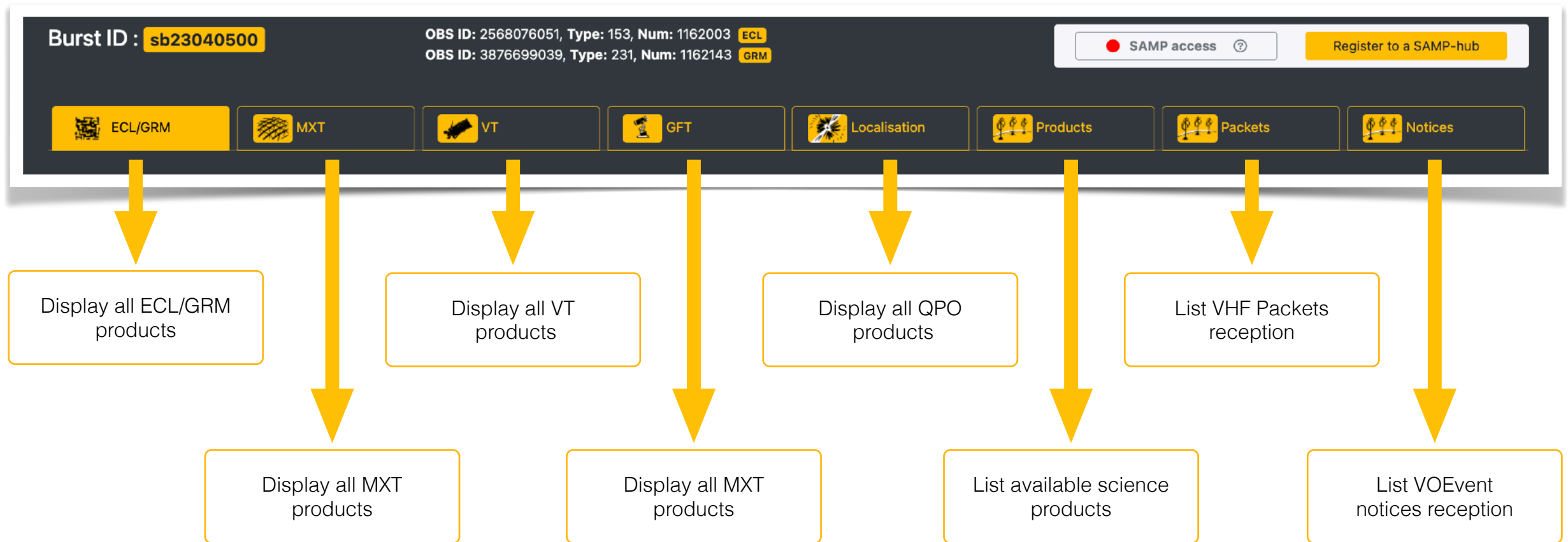


# Products List



For the selected GRB, iFSC-Tools loads the available science products and displays them on dedicated tab to each instrument

During a GRB sequence, the new products are displayed in real time



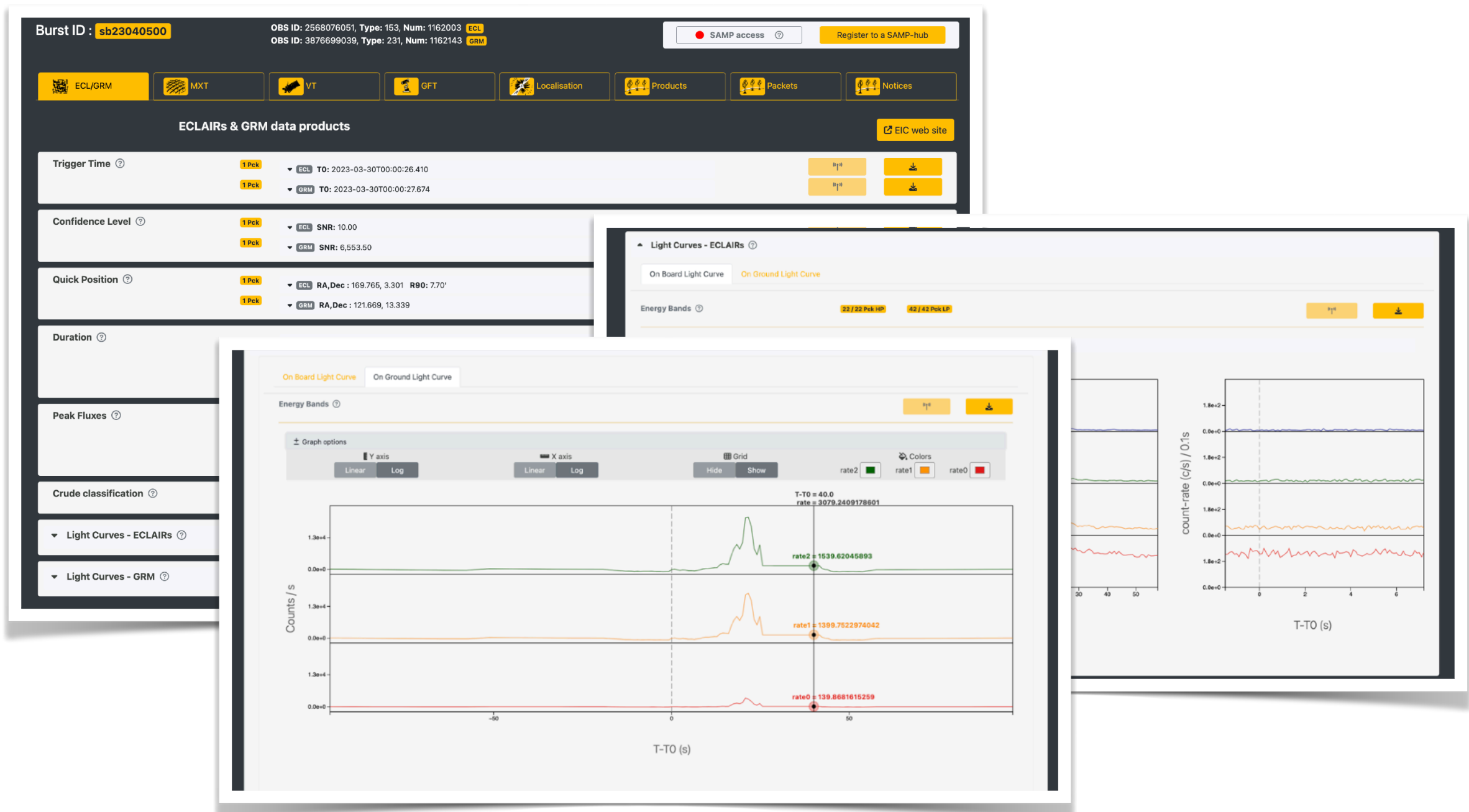




# Products display (1)



For exemple, the BA can visualise the Trigger Time and the Light Curves of ECLAIRs or GRM





# Products display (2)



and the Detection Time and the Light Curves of MXT and the VT Images

The screenshot displays two main panels: 'MXT data products' and 'VT data products'.

**MXT data products:**

- Detection Time:** Lists three detection times (DT) for sources Src1, Src2, and Src3.
- Quick flux determination:** Shows flux (QF) and error (QF\_ERR) for Src1, Src2, and Src3.
- MXT Position:** Provides RA, Dec, and R90 coordinates for Src1, Src2, and Src3, with status indicators like 'OUT of ECL R90'.
- Light Curves - MXT:** Includes tabs for VHF, X/VHF, and X-Band light curves. A 'Quick Light Curve' plot shows 'Counts / 6.4s' vs 'T-T0' for Src1, Src2, and Src3.

**VT data products:**

- OBATT, OBFIND, QSRCLIST, QPO, QIM1B\_VT:** Each section displays sequence data (Seq1-Seq4) with associated packet counts (Pck) and status indicators.
- Sequence 1:** Shows two image thumbnails labeled B1 (42 Pck) and R1 (83 Pck).
- Sequence 2:** Shows two image thumbnails labeled B2 (59 Pck) and R2 (68 Pck).



# Localisation



the BA can also visualise the available detected Positions by the instruments

The screenshot shows the 'Localisation Display' interface. On the left, there is a star field with a grid overlay. The x-axis is labeled 'RaJ2000' and the y-axis is labeled 'DecJ2000'. A blue circle highlights a specific position, and a larger yellow circle is centered on it. On the right, there is a 'Quick Position values' panel with a table of detected positions.

SRC	RAJ2000	DECJ2000	errorBox
ECLAIRs-1	169.777	3.108	12.83 '
ECLAIRs-2	170.036	2.852	10.27 '
ECLAIRs-3	169.934	2.925	7.70 '



# Localisation Options



The localisation Display offers several options like show/hide positions, show/hide the error box, change the color or change the position format (deg or hms)

The screenshot displays the 'Localisation Display' interface. At the top, it shows 'Burst ID : sb23050369' and 'OBS ID: 2568079859, Type: 153, Num: 1165811 ECL'. A navigation bar includes buttons for ECL/GRM, MXT, VT, GFT, Localisation (selected), Products, Packets, and Notices. The 'Localisation Display' section features a star map on the left with a 'Background' toggle (Hide/Show) and a 'Ra / Dec' coordinate system. On the right, a 'Quick Position values' panel lists several instrument categories with checkboxes for 'Best ErrBox' and 'All ErrBox', and color selection boxes. The 'VT' category is highlighted with a red box. At the bottom, there is a 'Show Quick SRC List' button.



# Available products



the BA can check the available science products during a GRB sequence

Available Science Products									
Product	Pipeline	Definition	Created	Last upd	Nb of upd	Download	Broadcast	SDB	PDB
QTI_MXT	MXT pipeline	Quick temporal index	2023-04-27 13:45:32.9	2023-04-27 13:45:32.9	1				
QLC_MXT	MXT pipeline	Quick Light Curve	2023-04-27 13:43:31.7	2023-04-27 13:43:31.7	1				
QF_MXT	MXT pipeline	Quick Flux at detection	2023-04-25 14:49:43.6	2023-04-25 14:49:43.6	1				
DT_MXT	MXT pipeline	Detection time	2023-04-25 14:26:43.3	2023-04-25 14:26:43.3	1				
QPO_MXT	MXT pipeline	Quick position	2023-04-19 09:05:58.7	2023-04-19 09:05:58.7	1				
OBALERT_ECL	VHF pre-proc	Trigger params	2023-04-19 08:46:29.3	2023-04-19 08:46:29.3	1				
OBLC_ECL	VHF pre-proc	On-Board Light Curve							
OBLC_GRM	VHF pre-proc	On-Board Light Curve							
QLC_ECL	VHF pre-proc	Quick Light Curve							
QLC_GRM	VHF pre-proc	Quick Light Curve							
QPF_ECL	VHF pre-proc	Quick peak flux							
QPF_GRM	VHF pre-proc	Quick peak flux							



# Packets & VoEvent reception



and also check the VHF packets reception and the Notices reception

The screenshot displays the 'ECLAIRS Packets reception' interface. At the top, there is a 'Show / Refresh List of' button, a dropdown menu set to 'ECLAIRs', and a 'Refresh the Eclairs list' button. The main area is divided into two columns: 'Messages' and 'Packets reception'. The 'Messages' column lists various alert types such as 'TmVhfEclairsAlert', 'TmVhfEclairsHighPriorityLightCurve', and several 'AlertDescriptor' entries. The 'Packets reception' column shows green progress bars for each message, with the first one indicating '1/1'.

An inset window titled 'VOEVENT Notices reception' is overlaid on the right side, showing a table with the following data:

Level	Num	Created	Instrument
N2m	2	2023-05-02 00:14:27.826025	MXT
N2m	1	2023-05-02 00:04:48.428852	MXT
N2e	1	2023-05-02 00:04:26.840323	ECLAIRs
N1e	1	2023-05-02 00:01:02.455320	ECLAIRs

Below the table, there is a pagination control showing '20' items and a page indicator '1'. At the bottom of the main interface, a calendar grid is visible, with the number '2' highlighted in a green box.



# ToO Mode



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With the ToO mode, the BA can list & follow the available or current ToO and display the available alerts and available science products

The screenshot displays the iFSC Tools web interface. The top navigation bar includes the SVOM FSC logo, a home icon, and menu items for GRB, ToO (highlighted with a red box), Shifts, Mission, Documentation, and Chinese SVOM-BA Tools. The date and time are shown as 2023-05-02 01:42 PM (UT). The main content area features four mode selection cards: GRB Mode, ToO Mode (highlighted with a red border), Shifts Calendar, and Mission Mode. Each card includes an icon and a brief description of its function. The footer contains copyright information and logos for CeSAM-SI, LAM, CNES, Aix-Marseille université, and CNRS INSU.



Like with the GRB mode, the BA can list the ToO by Year, by Date range or by ToO id

## ToO list

Search by Year ▼

2023

Search

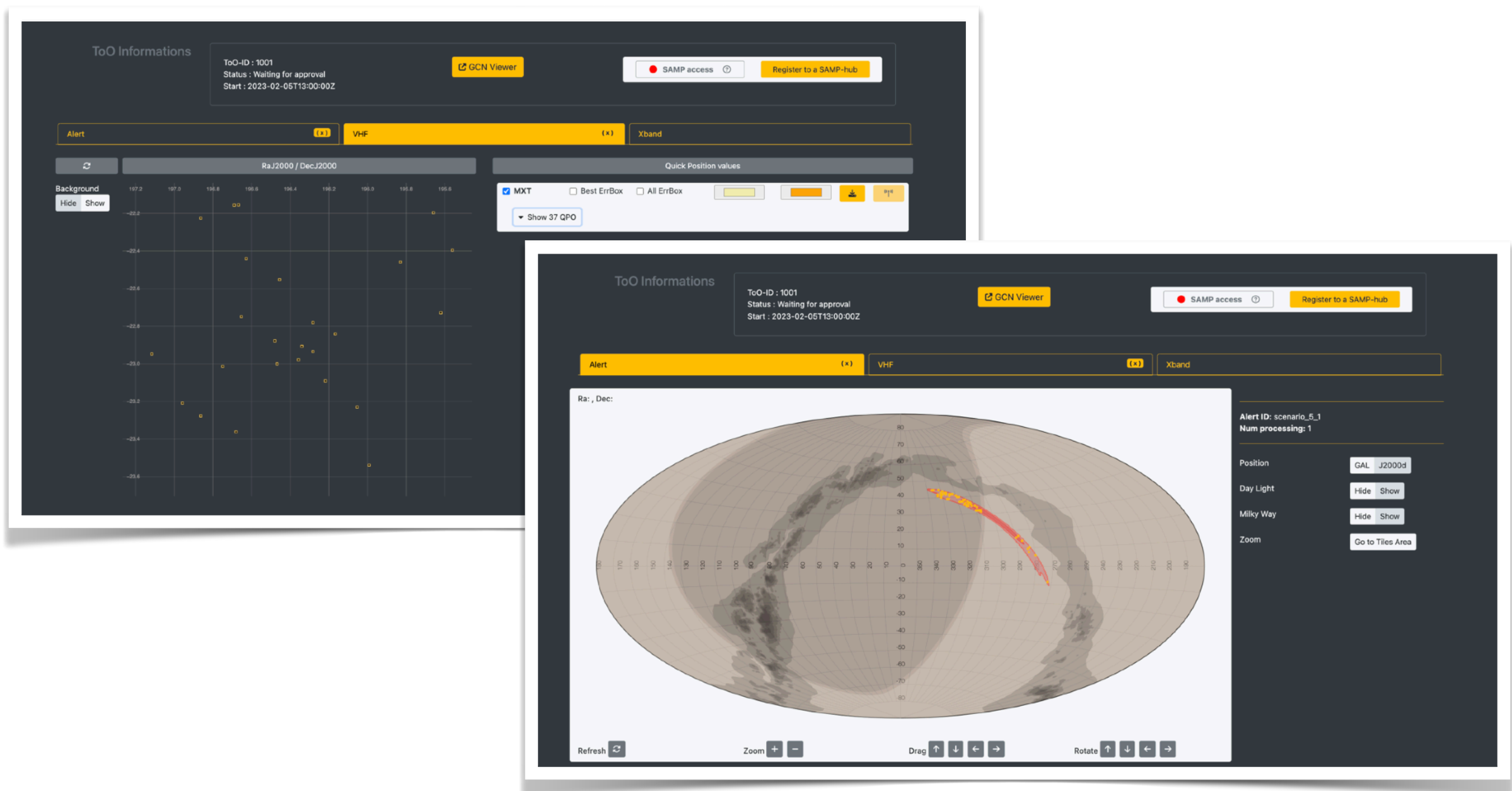
ⓘ

new <span style="font-size: 0.8em;">↑↓</span>	too_id <span style="font-size: 0.8em;">↑↓</span>	program <span style="font-size: 0.8em;">↑⇅</span>	start <span style="font-size: 0.8em;">↑↓</span>	status <span style="font-size: 0.8em;">↑↓</span>	vhf <span style="font-size: 0.8em;">↑↓</span>	xband_csc <span style="font-size: 0.8em;">↑↓</span>	xband_fsc <span style="font-size: 0.8em;">↑↓</span>	description <span style="font-size: 0.8em;">↑↓</span>	contact <span style="font-size: 0.8em;">↑↓</span>
	Q 14032023	ToO-MM	2023-03-13T13:00:00Z	Waiting for approval	X				test@lal.fr
	Q 13032023	ToO-MM	2023-03-13T13:00:00Z	Waiting for approval					test@lal.fr
	Q 1001	ToO-MM	2023-02-05T13:00:00Z	Waiting for approval					test@lal.fr

Showing 10 of 3 items

«
<
1
>
»

For the selected ToO, iFSC-Tools loads the available alerts and science products and displays them on dedicated tab



The image displays two screenshots of the iFSC-Tools interface. The top screenshot shows the 'Alert' tab, which includes a 'ToO Informations' section with details for ToO-ID: 1001, Status: Waiting for approval, and Start: 2023-02-05T13:00:00Z. Below this is a star field plot with axes for Right Ascension (Ra) and Declination (Dec). The bottom screenshot shows the 'VHF' tab, featuring a galactic map with a red/orange arc indicating a signal path. The interface also includes navigation controls like 'Refresh', 'Zoom', 'Drag', and 'Rotate'.



# Shifts Calendar



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With the Shifts Calendar, the BA check and manage the french Shifts

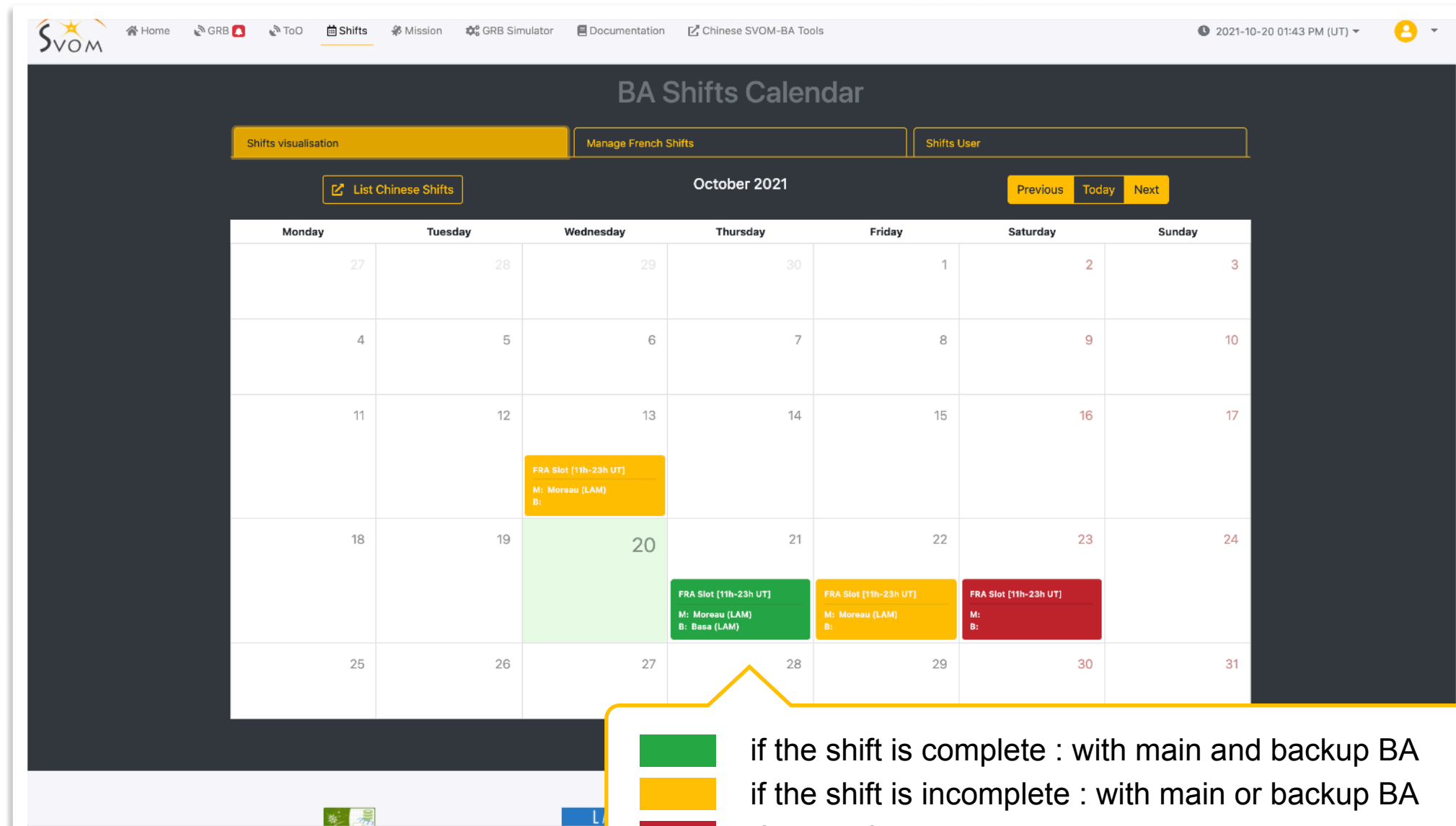
The screenshot shows the iFSC Tools web interface. The top navigation bar includes the SVOM FSC logo, a home icon, and menu items for GRB, ToO, Shifts (highlighted with a red box), Mission, Documentation, and Chinese SVOM-BA Tools. The date and time are shown as 2023-05-02 01:42 PM (UT). The main content area features four mode cards: GRB Mode, ToO Mode, Shifts Calendar (highlighted with a red box), and Mission Mode. The footer contains logos for CeSAM-SI, LAM, CNES, Aix-Marseille universit e, and CNRS INSU.



# Shifts Visualisation



The first tab displays all shifts.





# Manage French Shifts



The second tab allows to manage the french shifts.

Home GRB ToO Shifts Mission GRB Simulator 2021-10-20 01:44 PM (UT)

Shifts visualisation

Shifts User

Previous Today Next

Monday Tuesday Saturday Sunday

27 28 1 2 3

4 5 6 7 8

11 12 13 14 15

18 19 20 21 22 23 24

25 26 27 28 29 30 31

Slot : 11h-23h (UT)  
M: Moreau (LAM)  
B:

Slot : 11h-23h (UT)  
M: Moreau (LAM)  
B: Basa (LAM)

Slot : 11h-23h (UT)  
M: Moreau (LAM)  
B:

Slot : 11h-23h (UT)  
M:  
B:

chrystel.moreau@lam.fr

stephane.basa@lam.fr

veronique.buat@lam.fr

bertrand.cordier@cea.fr

arnaud.claret@cea.fr

diego.gotz@cea.fr

chrystel.moreau@lam.fr

The BA can Add or Edit a shift to complete it, and the shifts status changes in real-time.



This tab allows to check the statistics of the BA

**BA Shifts Calendar**

Shifts visualisation | Manage French Shifts | **Shifts User**

Select the BA :  | Select a year :

Name : Moreau Chrystel  
Unit : LAM  
✉ : chrystel.moreau@lam.fr

➔ Shifts List (chrystel.moreau@lam.fr / 2021)

tstart	main	backup
2021-11-12	chrystel.moreau@lam.fr	stephane.basa@lam.fr
2021-11-11	chrystel.moreau@lam.fr	stephane.basa@lam.fr
2021-11-10	chrystel.moreau@lam.fr	stephane.basa@lam.fr
2021-10-29	chrystel.moreau@lam.fr	stephane.basa@lam.fr
2021-10-22	chrystel.moreau@lam.fr	
2021-10-21	chrystel.moreau@lam.fr	stephane.basa@lam.fr
2021-10-13	chrystel.moreau@lam.fr	

Showing 10 of 7 items



# Mission Mode



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With the Mission, the BA can monitor the mission informations

The screenshot shows the iFSC Tools web interface. The top navigation bar includes the SVOM FSC logo, a home icon, and menu items for GRB, ToO, Shifts, Mission (highlighted with a red box), Documentation, and Chinese SVOM-BA Tools. The date and time are shown as 2023-05-02 01:42 PM (UT). The main content area features four cards: GRB Mode, ToO Mode, Shifts Calendar, and Mission Mode (highlighted with a red box). The Mission Mode card states: "This mode allows you to monitor the mission informations." The footer contains logos for CeSAM-SI, LAM, CNES, Aix-Marseille université, and CNRS INSU.





# Mission Mode



The current version provides only the spacecraft informations like observatories positions or stations activities

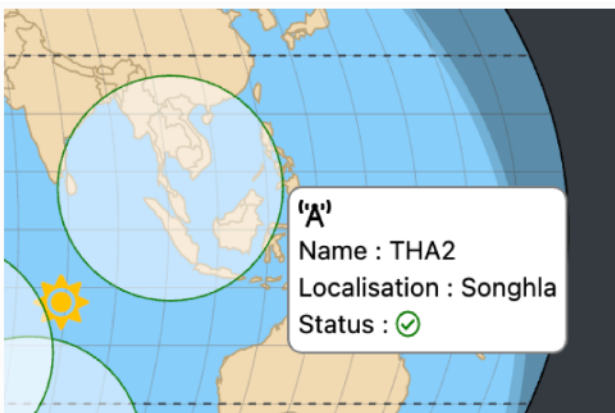




# Spacecraft tab



the BA can select an observatory or VHF stations and get informations  
the BA can also show or hide the several map visualisation options



• show/hide Observatories

• show/hide VHF Stations

• show/hide Night/Day area



# ToDO



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Finish the GRB mode with the specifications for VT and GFT products

Improve the ToO mode with the specifications for VHF and X-Band products

Improve the Mission mode