SVOM BA system

in a nutshell

Damien Turpin (CEA)

The reminders of today

1-The VHF alert sequence to the SVOM products

- How do the scientific products are built?
- Where are they stored and displayed for the BA?

2-BA Visu tools

- iFSC-tools: overview
- CSC BA tools: overview (*Xuhui Han's talk*)

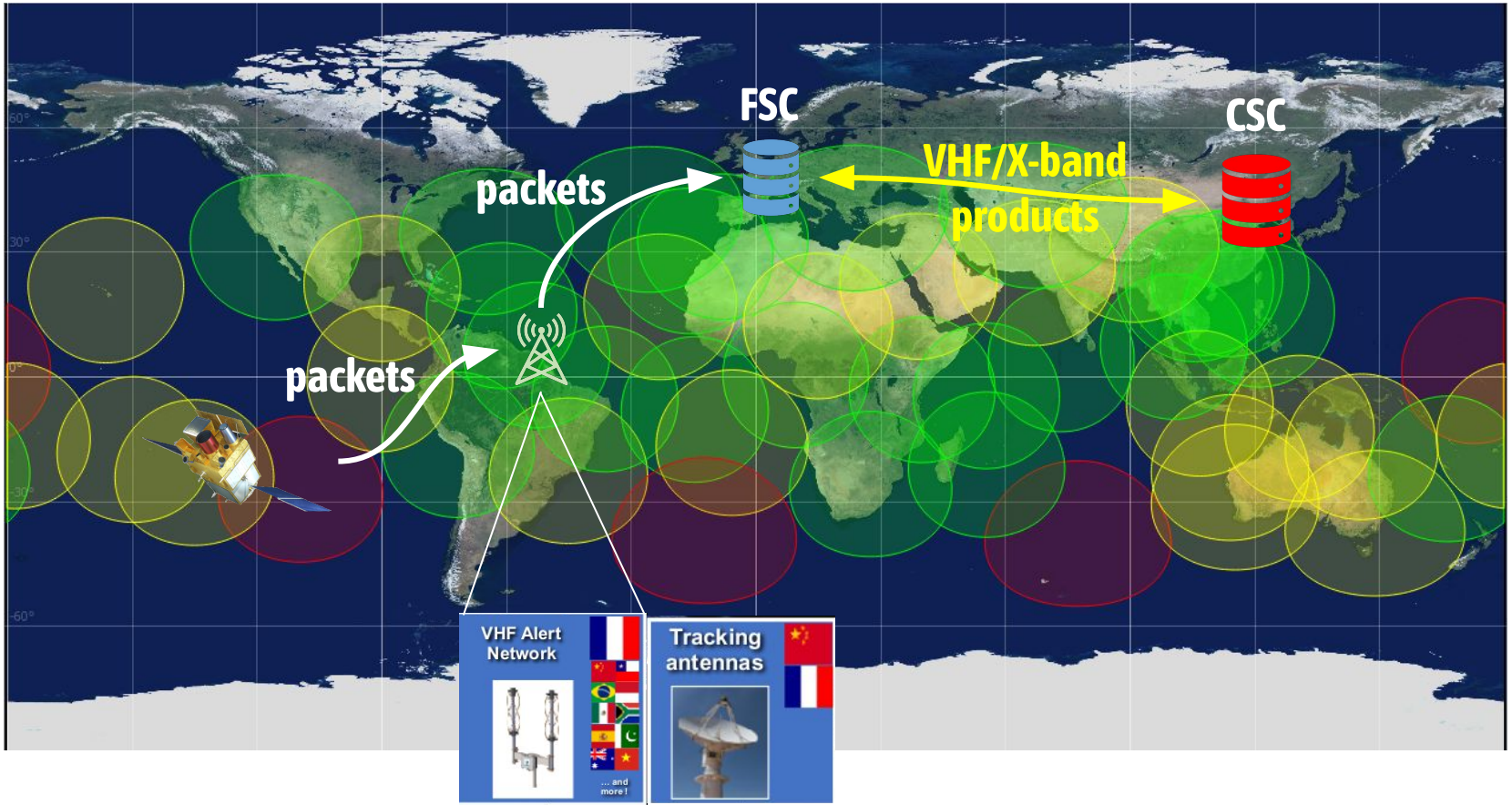
3-BA reporting tools and documentation

- Do we envision a reporting tool to close a follow-up campaign ?
- Do we follow the example of the SVOM/Swift training wiki ?
- How do we organize the BA user guide doc. ? Wiki ? PDF ? something else ?

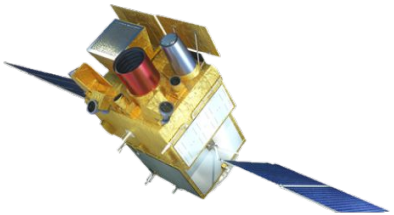
1-The VHF alert sequence to the SVOM products

- How do the scientific products are built?
- Where are they stored and displayed for the BA?

Overview of the SVOM product creation

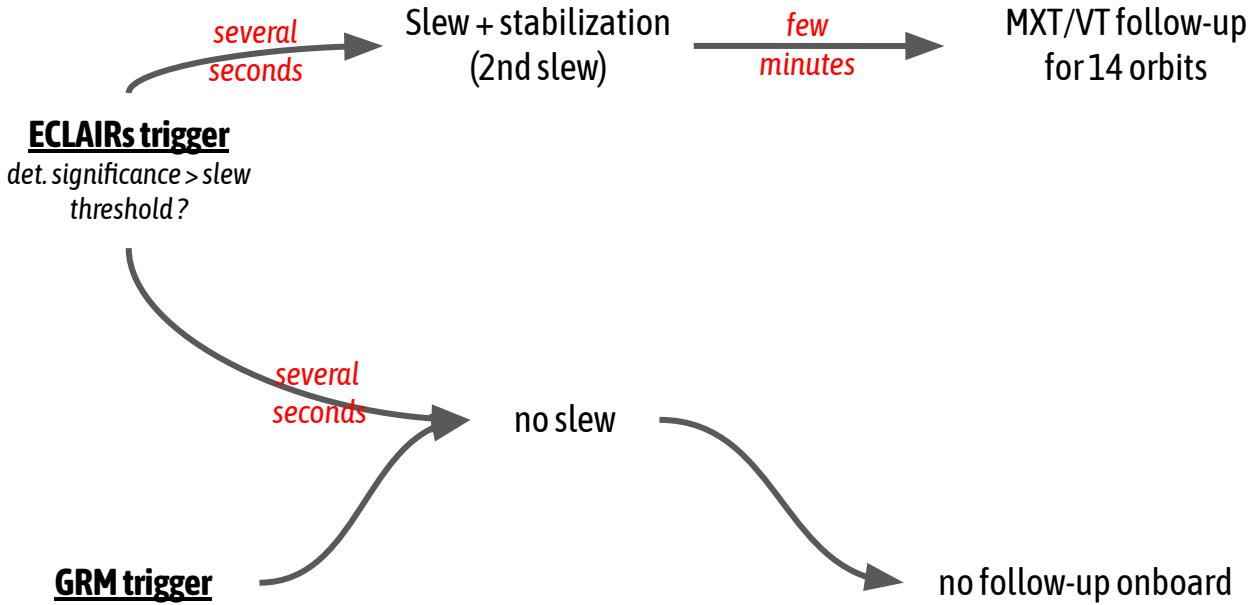


Overview of the onboard VHF alert sequence

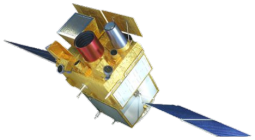


Potential alert seq.

1. *GRM/ECLAIRs (no slew)*
2. *ECLAIRs/GRM (no slew)*
3. *GRM only (no slew)*
4. *ECLAIRs only (no slew)*
5. *ECLAIRs/MXT/VT*
6. *GRM/ECLAIRs/MXT/VT*
7. *ECLAIRs/GRM/MXT/VT*



VHF alert packet sequence and prioritization



ex: ECLAIRs/GRM/MXT/VT sequence

priority

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TmVhfVtSubIm

TmVhfVtFindChart

Not all packets represented here

TmVhfVtAttChart

TmVhfGrmXXLightCurve

TmVhfMxtPhotonL

TmVhfEclairsAlertDescriptorN

TmVhfMxtPosition

TmVhfEclairsXXLightCurve

TmVhfPdpuGrb

TmVhfEclairsAlertDescriptor1

TmVhfEclairsAlert

Many packets are emitted and their latencies depend on their priority defined onboard

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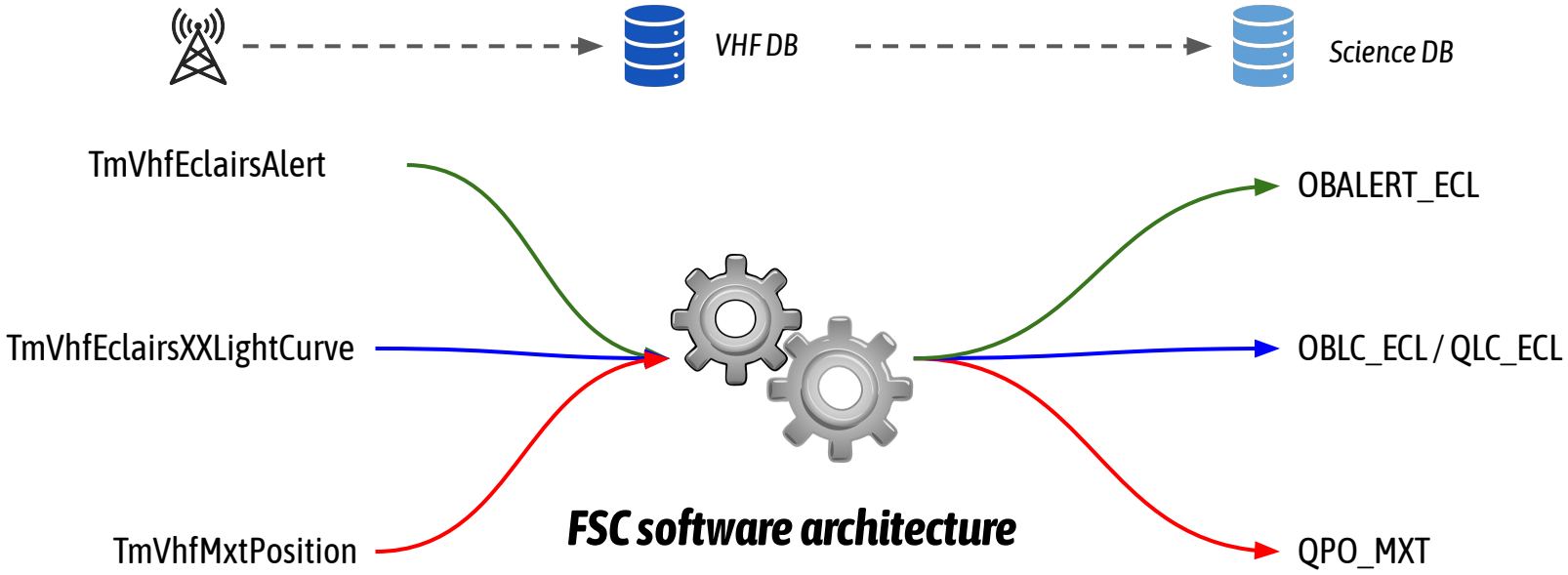
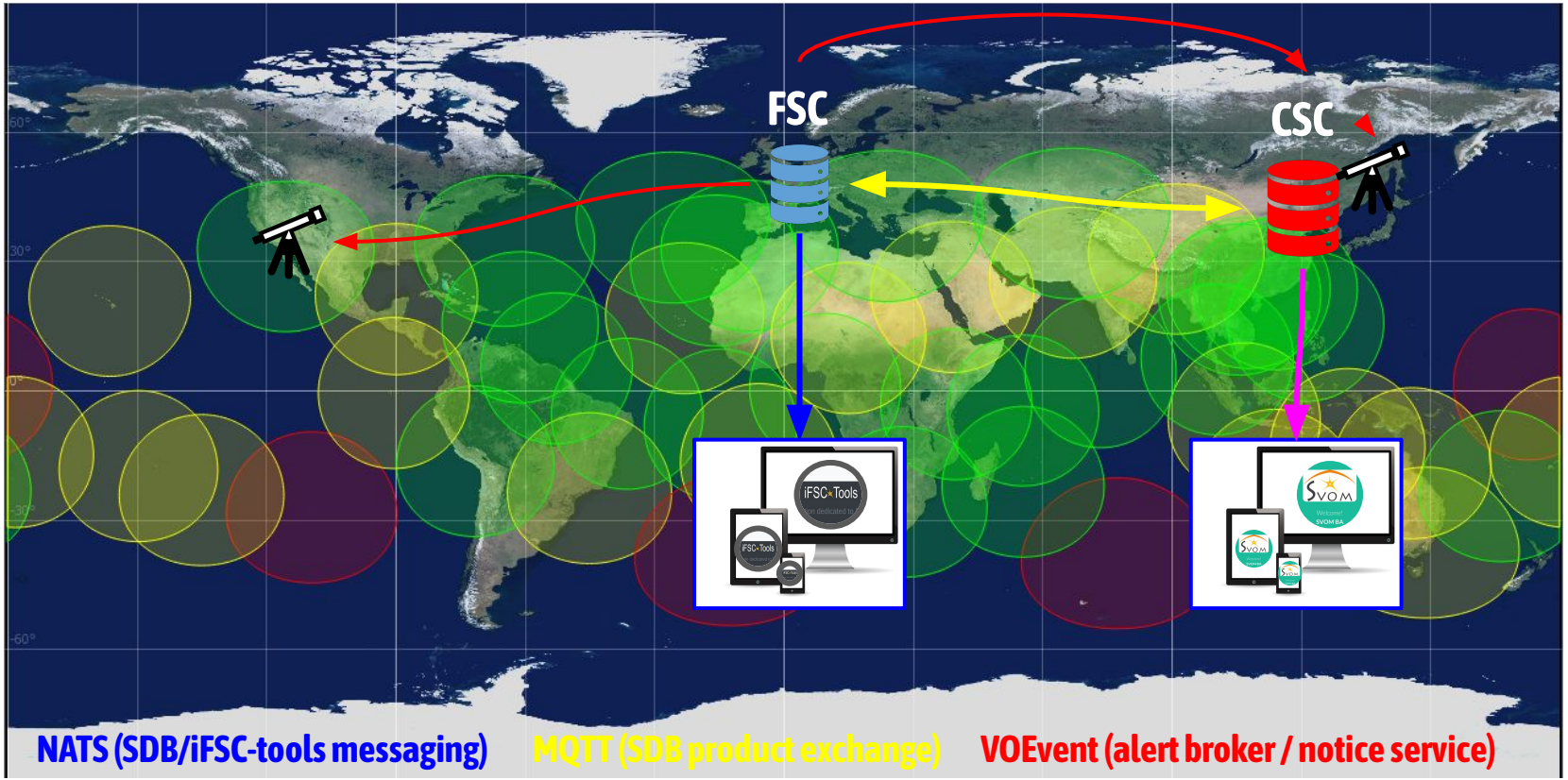
VHF alert packet to product conversion



This week you can discuss with the developers of the different FSC services

SVOM product & alert communication system



2-BA Visu tools

- iFSC-tools: overview
- CSC BA tools: overview (*Xuhui Han's talk*)

The SVOM BA tools

Chrystel Moreau, Jean-Christophe Thome, François Agneray (LAM)

Xuhui Han's talk (CSC)

- Manage th FR shifts
- Display VHF data on real-time
- **Allow the validation of the high-energy trigger**
- Display the MXT data and few VT VHF data (first obs. seq)
- **Edition of the HE GCN Circular (See Timothé Roland's talk)**
- Monitor the space environment around the spacecraft
- Display X-band high energy data
- Display ToO-MM data

- Manage th CN shifts
- Display VHF data on real-time
- **Allow the identification of the optical afterglow**
- Display the VT and GFT optical data
- **Edition of the optical GCN Circular**

Set up your BA working environment

Notification tools

- SVOM Mattermost (#voevent-notices, #ba-training) -> invitation link https://svack.lal.in2p3.fr/signup_user_complete/?id=q1egqc9bg3bx3y1t8i7146tw1e
- NASA GCN system (https://gcn.nasa.gov/)
- FSC account (https://fsc.svom.org/)
- CSC SMS (for those who want to be notified directly on their phone)
- Astro-Colibri App (https://astro-colibri.com/#/)

BA Visu tools

- iFSC-tools - need a FSC account- (https://fsc.svom.org/ifsc-tools/)
- CSC BA tools - generic account for all of us for now (https://svom-gwacn.cn/ba/login.action)

BA reporting tools ?

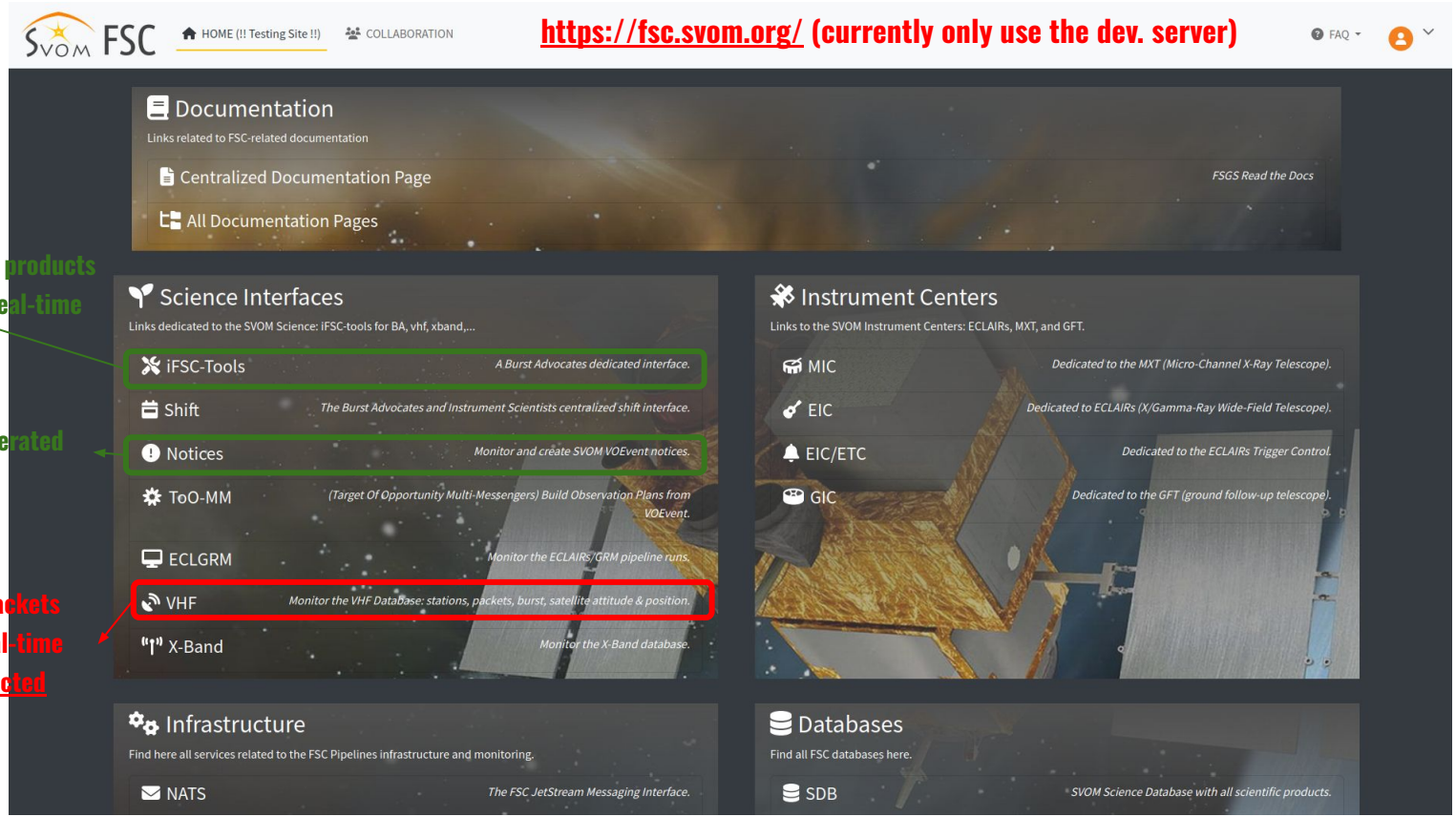
- SVOM redmine BA-training wiki (https://forge.in2p3.fr/projects/ba-training2/wiki)

Be in the JSOG meeting mailing list

- every two weeks on wednesday morning we make a status about the Scientific operation activities. You should participate to these meetings if you are available (ask Arnaud Claret (arnaud.claret@cea.fr) to be in the mailing list of the JSOG meetings)

Your FSC dashboard

https://fsc.svom.org/ (currently only use the dev. server)



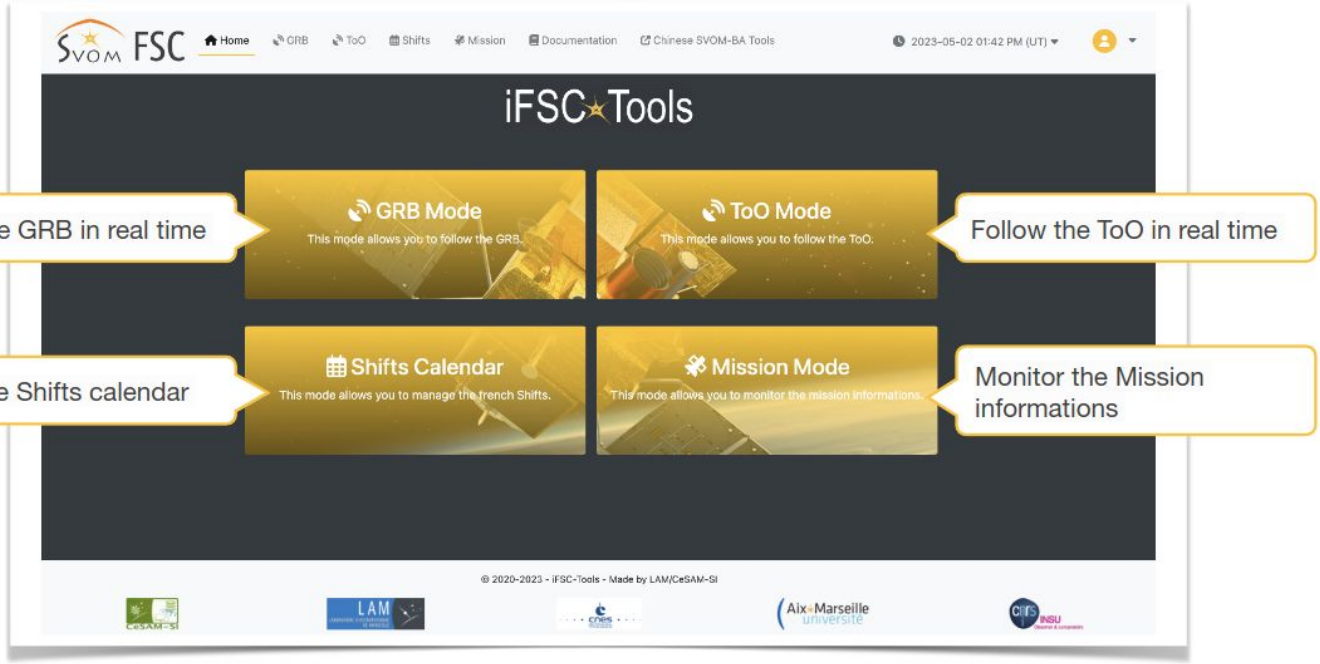
Look at the sci. products delivered on real-time

Look at the generated notices

Look at VHF packets received in real-time
Access restricted

Your iFSC-tools dashboard

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

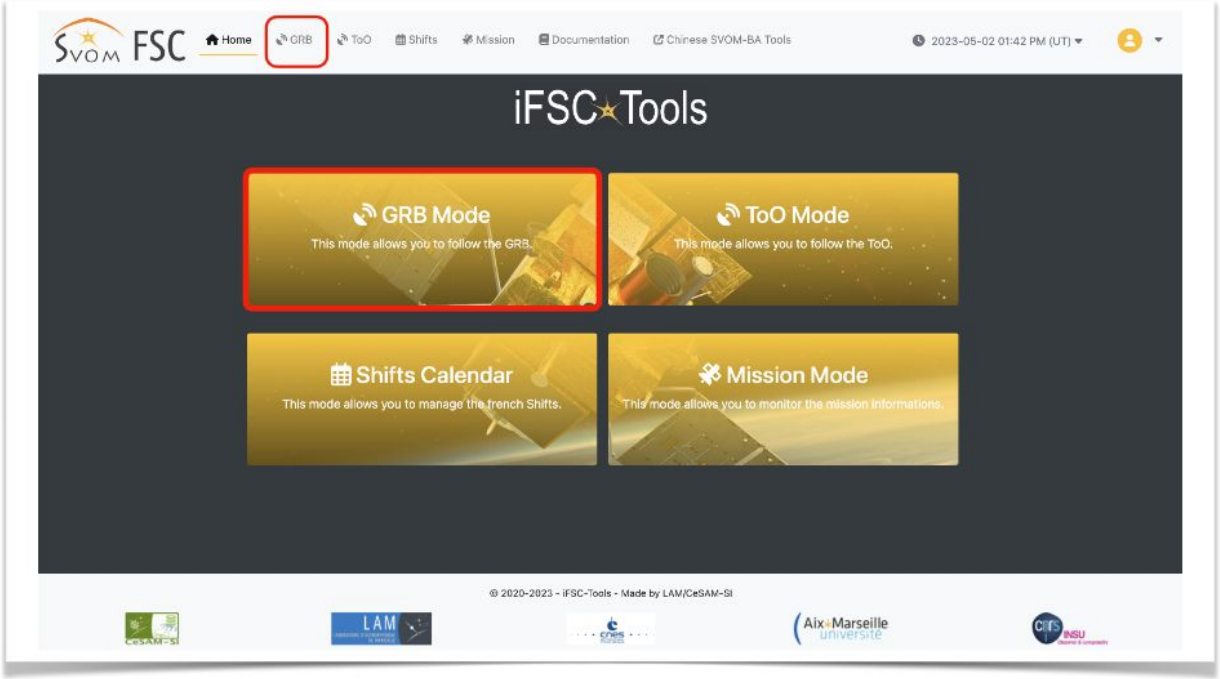


IFSC-Tools - v2.7.0, Chrystel Moreau (LAM)

Adapted from C. Moreau's slides

iFSC-tools: the GRB mode

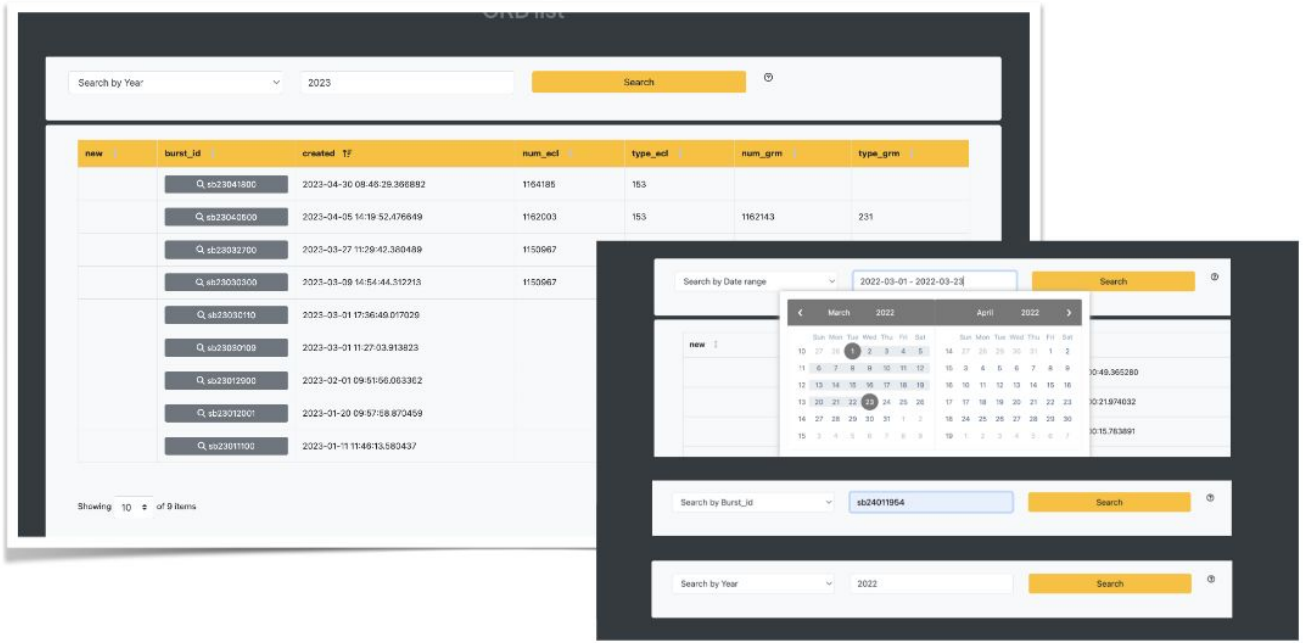
With the GRB mode, the BA can list & follow the available or current GRB and display the available science products



Adapted from C. Moreau's slides

iFSC-tools: the GRB list

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



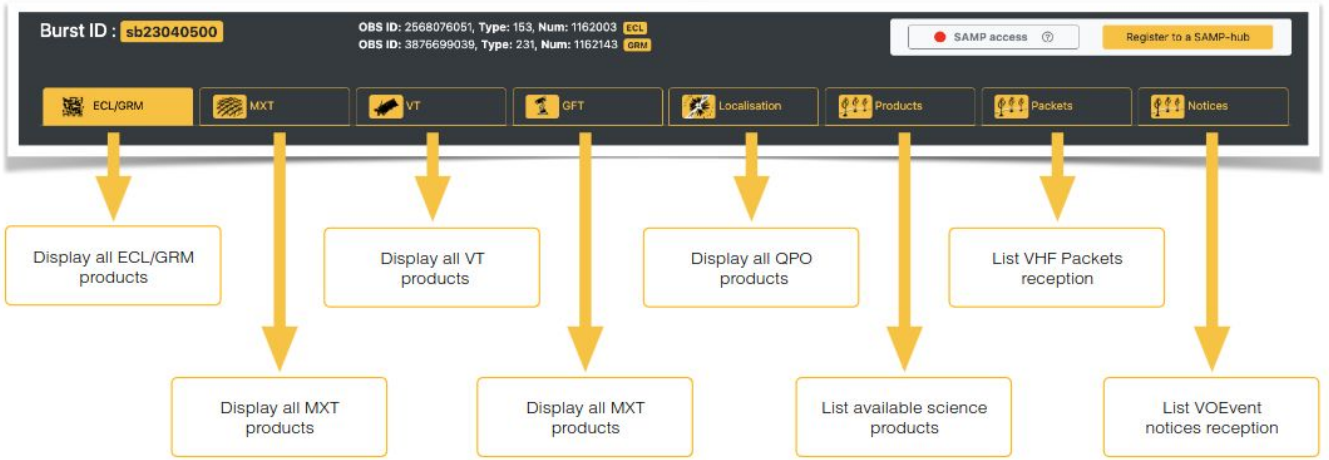
IFSC-Tools - v2.7.0, Chrystel Moreau (LAM)

Adapted from C. Moreau's slides

iFSC-tools/GRB: the product 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

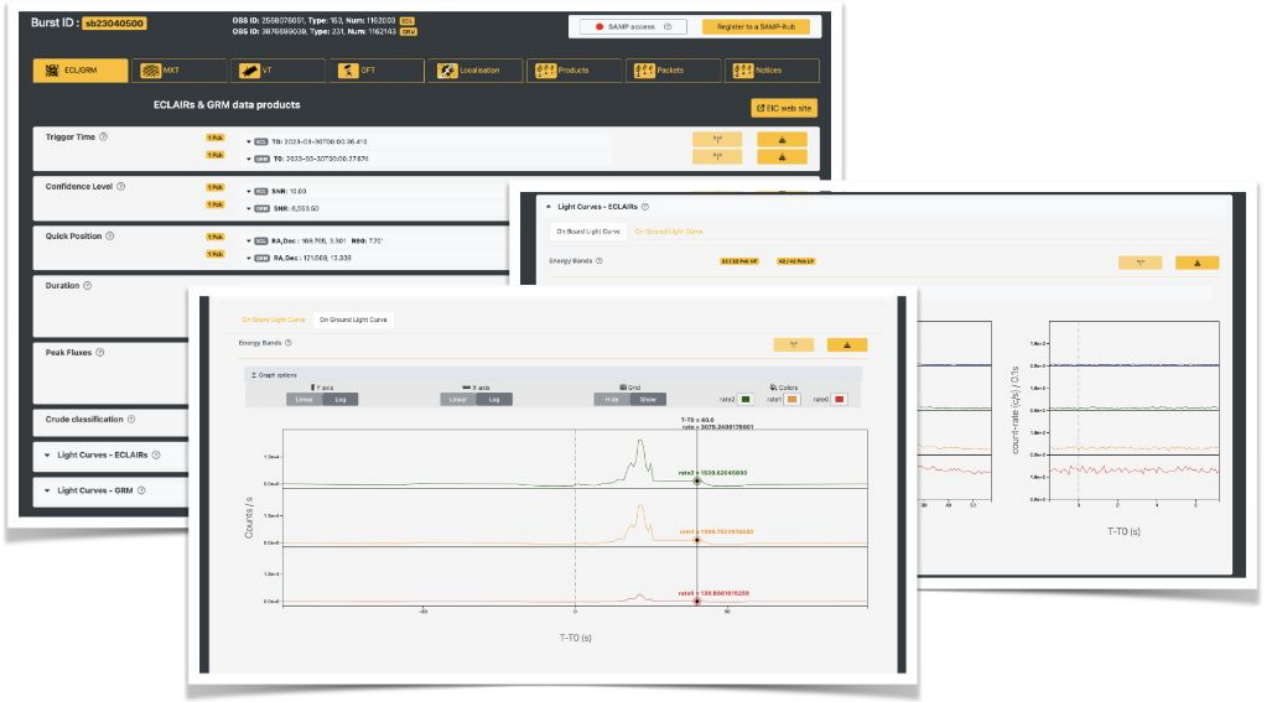


IFSC-Tools - v2.7.0, Chrystel Moreau (LAM)

Adapted from C. Moreau's slides

iFSC-tools/GRB: the product display (1)

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

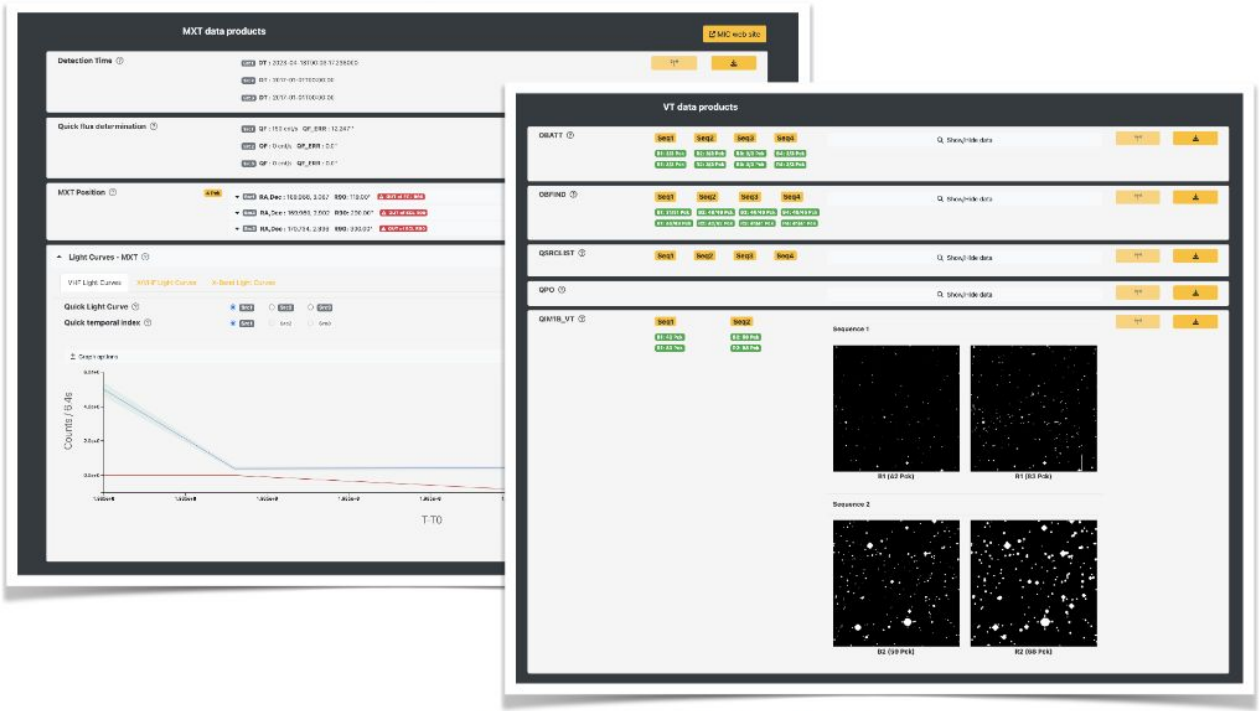


IFSC-Tools - v2.7.0, Chrystel Moreau (LAM)

Adapted from C. Moreau's slides

iFSC-tools/GRB: the product display (2)

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

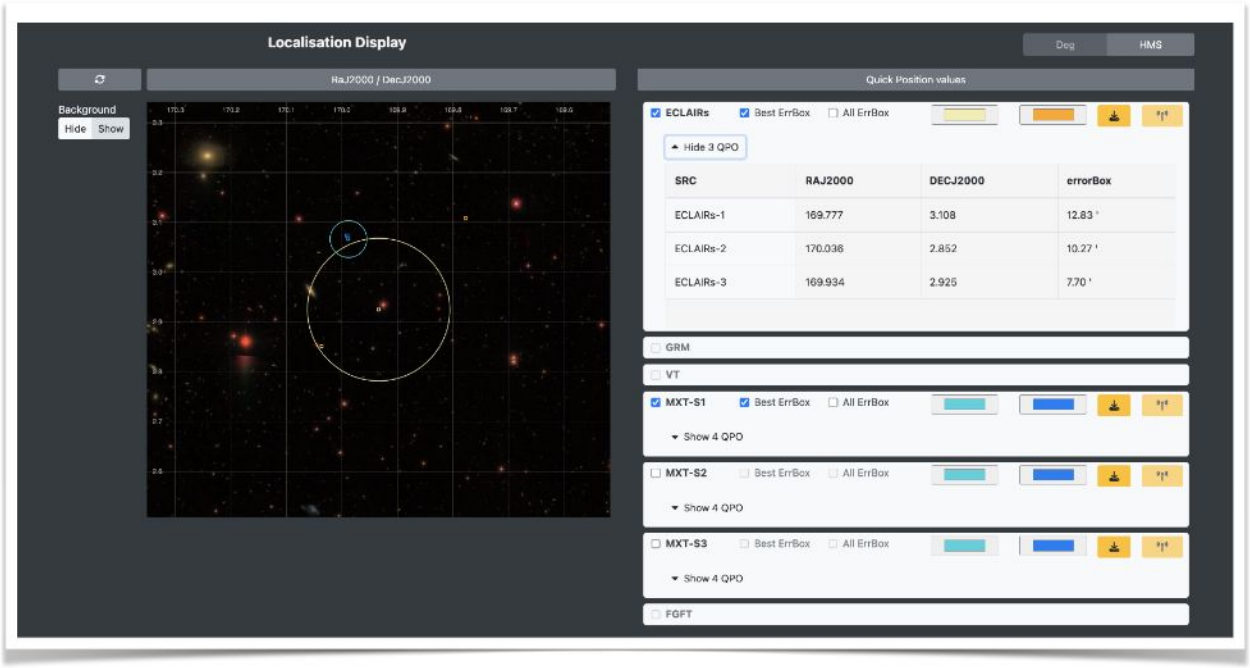


IFSC-Tools - v2.7.0, Chrystel Moreau (LAM)

Adapted from C. Moreau's slides

iFSC-tools/GRB: the localisation

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



IFSC-Tools - v2.7.0, Chrystel Moreau (LAM)

Adapted from C. Moreau's slides

iFSC-tools/GRB: the available products

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

Available Science Products

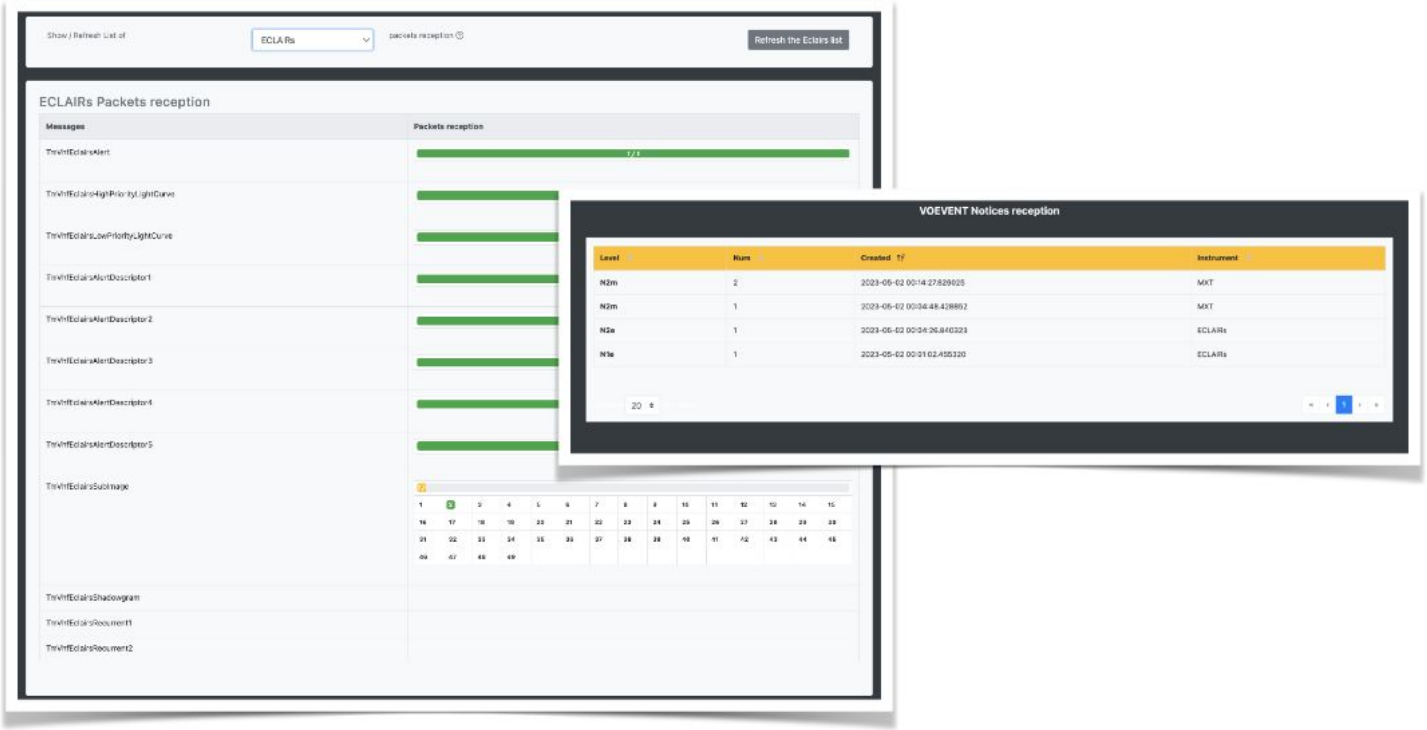
Product	Pipeline	Definition	Created	Last upd	Nb of upd	Download	Broadcast	SDB	PDB
QTI_MXT	MXT pipeline	Quick temporal index	2023-04-27 13:45:32.9	2023-04-27 13:45:32.9	1				
QLC_MXT	MXT pipeline	Quick Light Curve	2023-04-27 13:43:31.7	2023-04-27 13:43:31.7	1				
QF_MXT	MXT pipeline	Quick Flux at detection	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							

Adapted from C. Moreau's slides

IFSC-Tools - v2.7.0, Chrystel Moreau (LAM)

iFSC-tools/GRB: packets and notices reception

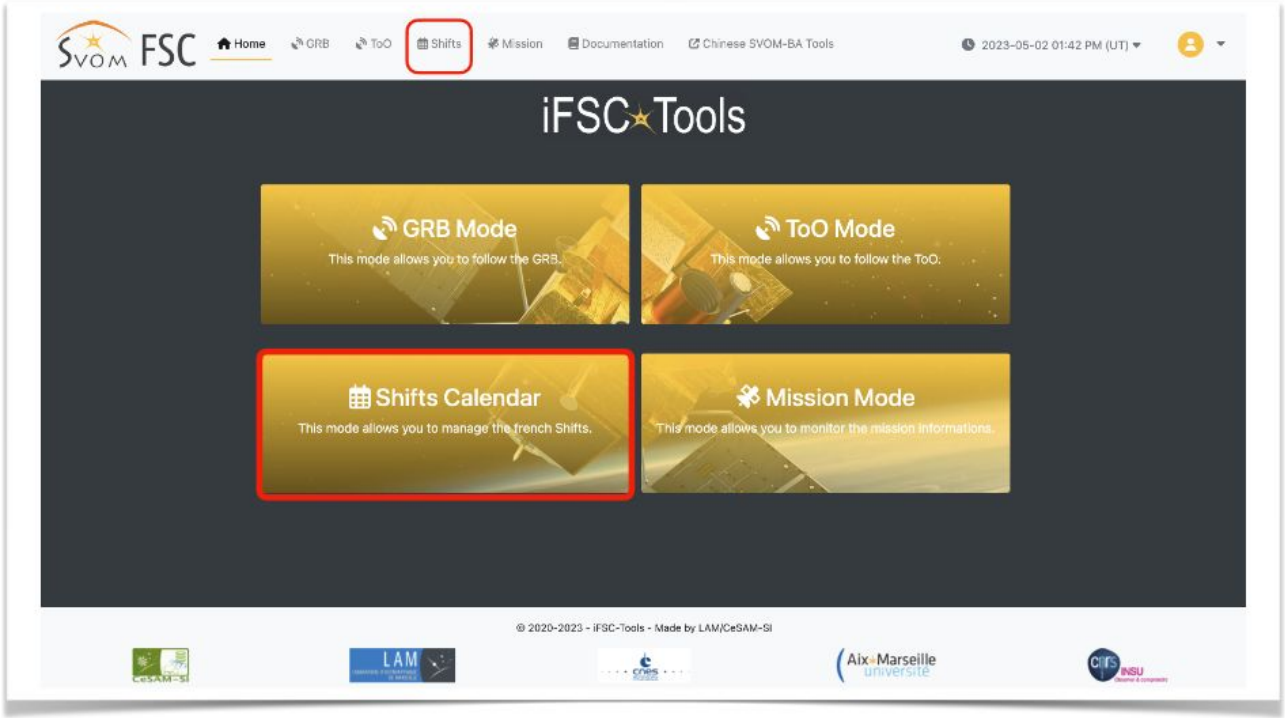
and also check the VHF packets reception and the Notices reception



Adapted from C. Moreau's slides

iFSC-tools: The Shift mode

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

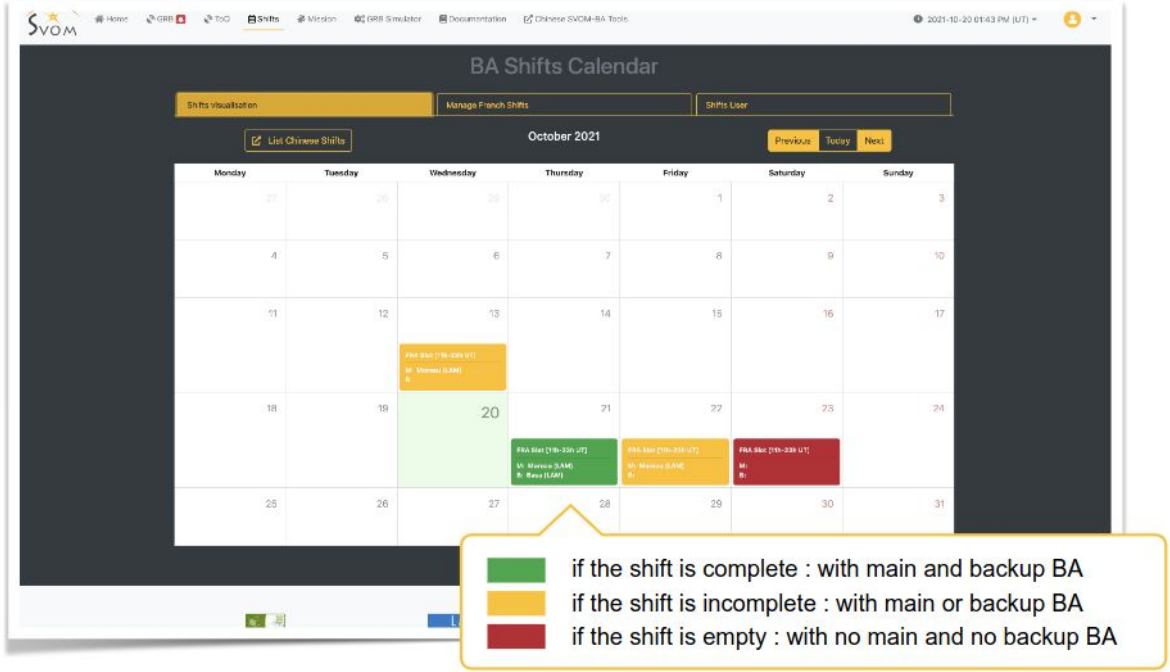


Adapted from C. Moreau's slides

IFSC-Tools - v2.7.0, Chrystel Moreau (LAM)

iFSC-tools: The Shift visualisation

The first tab displays all shifts.

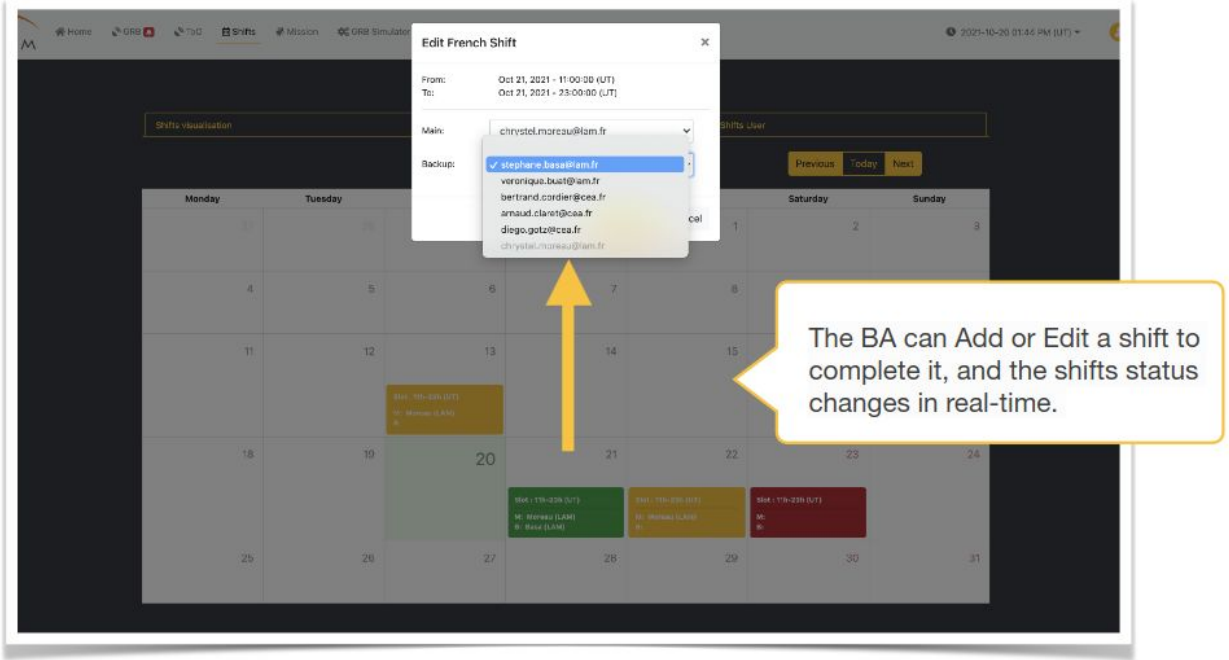


IFSC-Tools - v2.7.0, Chrystel Moreau (LAM)

Adapted from C. Moreau's slides

iFSC-tools: The FR Shift management

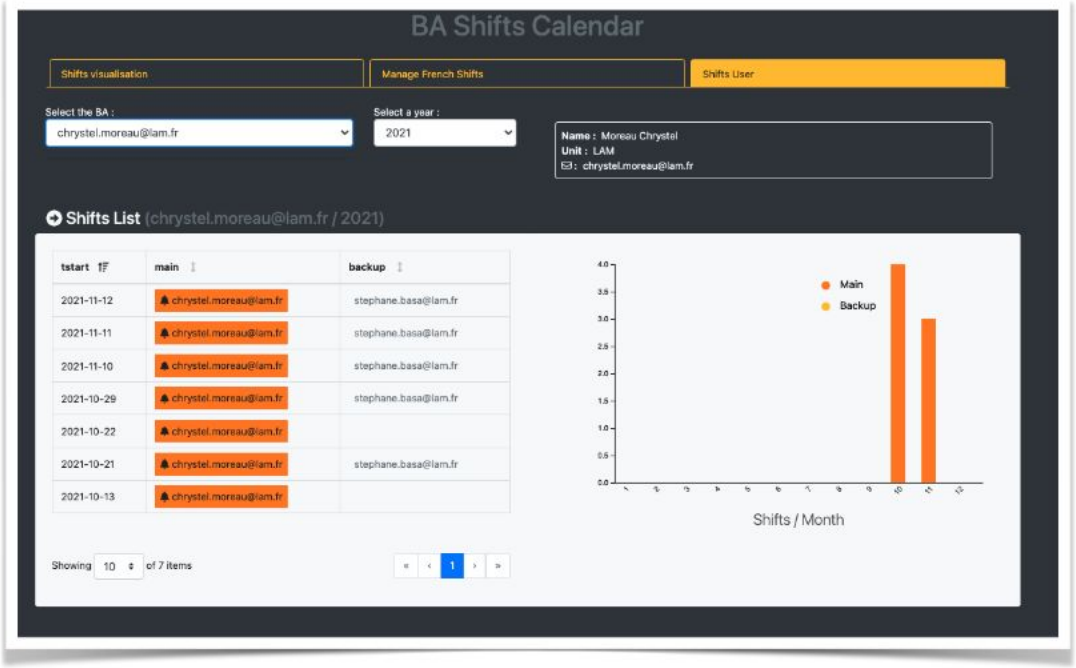
The second tab allows to manage the french shifts.



Adapted from C. Moreau's slides

iFSC-tools: The FR Shift management

This tab allows to check the statistics of the BA



Adapted from C. Moreau's slides

3-BA reporting tools and documentation

- Do we envision a reporting tool to close a follow-up campaign ?
- Do we follow the example of the SVOM/Swift training wiki ?
- How do we organize the BA user guide doc. ? Wiki ? PDF ? something else ?

BA reporting tools: the BA_training wiki page

https://forge.in2p3.fr/projects/ba-training2/wiki

Modifier Surveiller •••

BA training

Core program training with Swift and Fermi-GBM alerts

Goals

The goals of this new BA training session is to test and validate the interfaces and tools we will need to perform the BA tasks in 2022 in the framework of the Core Program. Below are listed the tools and interfaces that we will test:

- Shift organization and tools
- FSC and CSC communication protocols
- SVOM follow-up system @ Xinglong and CSC communication
- CSC - BA tools interfaces
- BA tools monitoring pages for the validation of the optical counterparts

Presentations in meetings

- General system architecture (author: D. Turpin & Liping Xin)
- Kick-off meeting presentations (author: SVOM BA group)

Documentation

Burst Advocate Working Organization / PDF version (**not necessarily up-to-date**) check here
Burst Advocate Working Procedure / PDF version (**not necessarily up-to-date**) check here
GCN Circular templates

BA working procedure doc under construction

Useful links

iFSC-tools
Invitation to SVOM-BA Slack

Burst Advocate preparation of training activities meeting : Minutes / PDF version check here

Access to BA reports for training campaigns ¶

Tutorials

1. **What are the informations I can get form the BA training wiki pages?** check tutorial
2. **How to make my Burst Advocate final report?** check tutorial

Hand-made tutorial (a bit old but still useful)

Training on Swift GRB alerts

Access to all the BA report related to the Swift alerts

Training on optical transient alerts

Fichiers (0)

Mis à jour par Turpin Damien il y a 5 mois · 56 révisions

Formats disponibles : PDF | HTML | TXT

Modifier

Wiki

Page de démarrage
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Index par date

BA reporting tools: the BA report

https://forge.in2p3.fr/projects/ba-training2/wiki

Summary of the follow-up 2023

Instrument	TrigID	SVOM burst ID	Trigger alias	GRB type	Redshift	Trigger Time [UTC]	BA	Description	SVOM Follow-up	First observation after T0	follow-up duration	SVOM GCN Circular	BA report
Swift/BAT	1186982	sb23082478	--	Swift J1727.8-1613	--	2023-08-24 18:54:32	T. Maiolino	This is not a GRB. Swift Burst Alert Telescope (BAT) triggered and located Swift J1727.8-1613. We note this is the 2nd time BAT has triggered on this source, previously named GRB 230824A (GCN #34537), now likely a Galactic transient Swift J1727.8-1613 (GCN #34540). Due to a Moon observing constraint, Swift cannot observe this location until 09:35 UT on 2023 August 27.	No (FSC/iFSC out of order)	--	--	--	check
Swift/BAT	1186959	sb23082458	GRB 230824A (Swift J1727.8-1613; GCN #34540/34542)	**Non Burst**	--	2023-08-24 13:59:44	T. Maiolino	As is common for image triggers, the BAT light curve does not show significant structure. The duration appears to be about 20 sec. The peak count rate was ~1400 counts/sec (15-350 keV), at ~6 sec after the trigger.	No (FSC/iFSC out of order)	--	--	--	check
Swift/BAT	1186304	sb23082084	--	**Non Burst**	--	2023-08-20 20:14:56.13	D. Turpin	--	No (**Failure at FSC - Orchestrator-**)	--	--	--	check
Swift/BAT	1186302	sb23082083	--	**Non Burst**	--	2023-08-20 20:02:24.13	D. Turpin	--	No (**Failure at FSC - Orchestrator-**)	--	--	--	check
Swift/BAT	1186296	sb23082082	--	**Non Burst**	--	2023-08-20 19:43:36.13	D. Turpin	--	No (**Failure at FSC - Orchestrator-**)	--	--	--	check
Swift/BAT	1186294	sb23082081	--	**Non Burst**	--	2023-08-20 19:28:32.13	D. Turpin	--	No (**Failure at FSC - Orchestrator-**)	--	--	--	check
Swift/BAT	1186291	sb23082079	--	**Non Burst**	--	2023-08-20 19:09:36.13	D. Turpin	--	No (**Failure at FSC - Orchestrator-**)	--	--	--	check
Swift/BAT	1186032	sb23081897	GRB230818A	Long	2.42	2023-08-18 23:27:34	D. Turpin	The BAT light curve showed a single complex peak structure with a duration of about 10 sec. The peak count rate was ~6000 counts/sec (15-350 keV), at ~1 sec after the trigger.	No (**Failure at FSC - Orchestrator-**)	--	--	--	check
Swift/BAT	1185685	sb23081679	--	**Non Burst**	--	2023-08-16 19:10:48.16	D. Turpin	--	No (**Failure at FSC - Orchestrator**)	--	--	--	check
Swift/BAT	1185673	sb23081667	GRB230816A	Long	--	2023-08-16 16:08:48.29	D. Turpin	The BAT light curve showed a single-peaked structure with a duration of about 25 sec. The peak count rate was ~1900 counts/sec (15-350 keV), at ~0 sec after the trigger.	No (**Failure at FSC - Orchestrator-GFT follow-up directly from the Swift notices**)	6.9 min	16.67 min	Yes	check
Swift/BAT	1183217	sb23080547	GRB230805B	Long	--	2023-08-05 11:23:51	D. Turpin	The BAT light curve showed a complex structure with a duration of about 60 sec. The peak count rate was ~1300 counts/sec (15-350 keV), at ~5 sec after the trigger.	No (**Failure at FSC - Orchestrator**)	--	--	--	check
Swift/BAT	1182085	sb23080228	GRB230802A	Long	--	2023-08-02 06:50:26	D. Turpin	The BAT light curve showed a wide pulse structure with a duration of about 60 sec. The peak count rate was ~3000 counts/sec (15-350 keV), at ~0 sec after the trigger.	No (**Initial Failure at FSC - Orchestrator and bad weather**)	--	--	--	check

sb23081897 / 1186032 / GRB230818A

Summary

Trigger nature	GRB
Trigger facility	Swift/BAT
Trigger alias	GRB230818A
Trigger type	Long GRB
Redshift	2.42
Date (UTC)	2023-08-18 23:27:34
RA (final)	285.88784
dec (final)	40.89668
Error position (degree)	0.000638
Probability of false alert	0%
S/N	10.63
Proba Coverage	0
SVOM follow-up	No (**Failure at FSC - Orchestrator-**)
delay first obs	--
Follow-up duration	--

Characteristics of the trigger

https://gcn.gsfc.nasa.gov/other/1186032.swift

The Swift/BAT light curve can be found here : https://gcn.gsfc.nasa.gov/notices_s/1186032/BA/#lc

SVOM follow-up

BA on duty : D. Turpin

Some comments :

Observations report

telescope	Tstart - T0 (min)	Tend - T0 (min)	filter	mag	error mag

Results from other experiment

Facility	Wavelength	GCN	Comments

Fichiers (0)

JSOG meeting: what should I report ?

I could say one introductive word to summarize the statistics of the last two weeks

and then

<u>If you were on shift and a burst occured, you should describe</u>

1. **A summary of your check-list to report failure in some process or successes (always good to report successes)**
2. **If A GCN has been published, take some time to describe the follow-up results and the upcoming plans in terms of SVOM and external (if you have some info.) team follow-ups**

<u>If you were on shift and no burst occured</u>

1. **Nothing to report**

Conclusive words

- If you need more information about the FSC software architecture and VFH packet to products creation don't hesitate to ask the FSC dev this week

- Test the iFSC-tools and give feedback to the available displays

- Think about missing displays

- Discussion to have: how do we organize the regular BA report (JSOG is enough?) ? Should a BA make a final report to close a campaign ?

- How do the BA interact with the external follow-up facilities ? Contact the PI proposal ? see https://forge.in2p3.fr/projects/grb-follow-up/wiki