

**A. Claret, on behalf the BA working groups**

An aerial photograph of a vast forest with trees in various shades of green, yellow, and orange, indicating autumn. In the distance, there are rolling hills and mountains under a heavy, grey, overcast sky. A few buildings and a large white dome structure are visible in the middle ground.

# **Update on the development of BA-tools (French and Chinese)**

**2nd Colibri-SVOM workshop @ OHP 7 April 2022**

# Update on the development of BA-tools

## Agenda

1. Background information
2. Development process and tests
3. French part
4. Chinese part
5. Issues and priorities

*I will save some time in order to have an open discussions*

*Nevertheless, for questions that could lead to lengthy discussions, it is suggested that they are noted and answered after the other 3 presentations*

# Background information

## French-Chinese agreement on BA-tools

- **IAP workshop (end 2019)**

- \* French side (iFSC-Tools) is in charge of **high-energy** validation tools and display tools, including VHF and X-band data

- \* Chinese side (CSC BA-Tools) is in charge of the **optical** validation tools and display tools, including VHF, X-band and ground data

- **Don't panic, since in practice:**

- \* The French iFSC-tools (developed by LAM)

- allows monitoring in real time the reception of VHF packets

- allows the Instrument Scientists (working at EIC, MIC, GIC) to monitor and analyse all the French instrument data (ECLAIRs, MXT, **F-GFT**)

- also includes **ECLGRM** products (managed by LUPM) and **VT** (managed by GEPI)

- \* iFSC-tools and CSC BA-tools are complementary

- \* Both BA-tools will be used simultaneously by all BAs

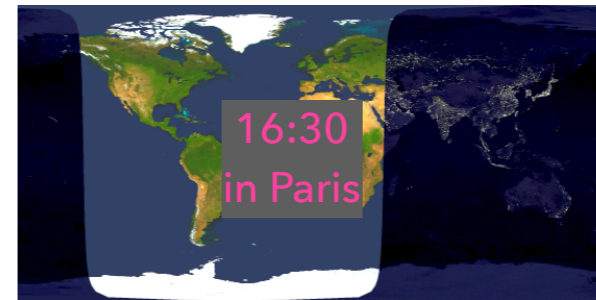
# Background information

## French-Chinese agreement on BA shifts

- **Current agreement** for BA time sharing is 60% / 40%

- ▶ Chinese BA shift (14.5 hrs duration)

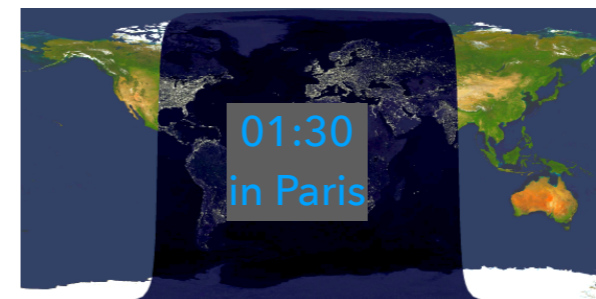
**7:00 - 21:30 LT**



French BA shift occurs when eastern telescopes are operating

- ▶ French BA shift (9.5 hrs duration)

**15:30 - 01:00 LT**



Chinese BA shift occurs when western telescopes are operating

- The knowledge and the access to the Chinese means of observation are essential for the French BA
- Based on what the Chinese have requested for the training period using Swift alerts, this could evolve towards 50% / 50%, not sure but to be watched

# Background information

## What the BA is supposed to do?

Monitor key parameters of the Svom mission  
BA-tools + Instrument Centers Web portals

BA writes GRB report

BA supervises notices N1 & N2

BA publishes final circular

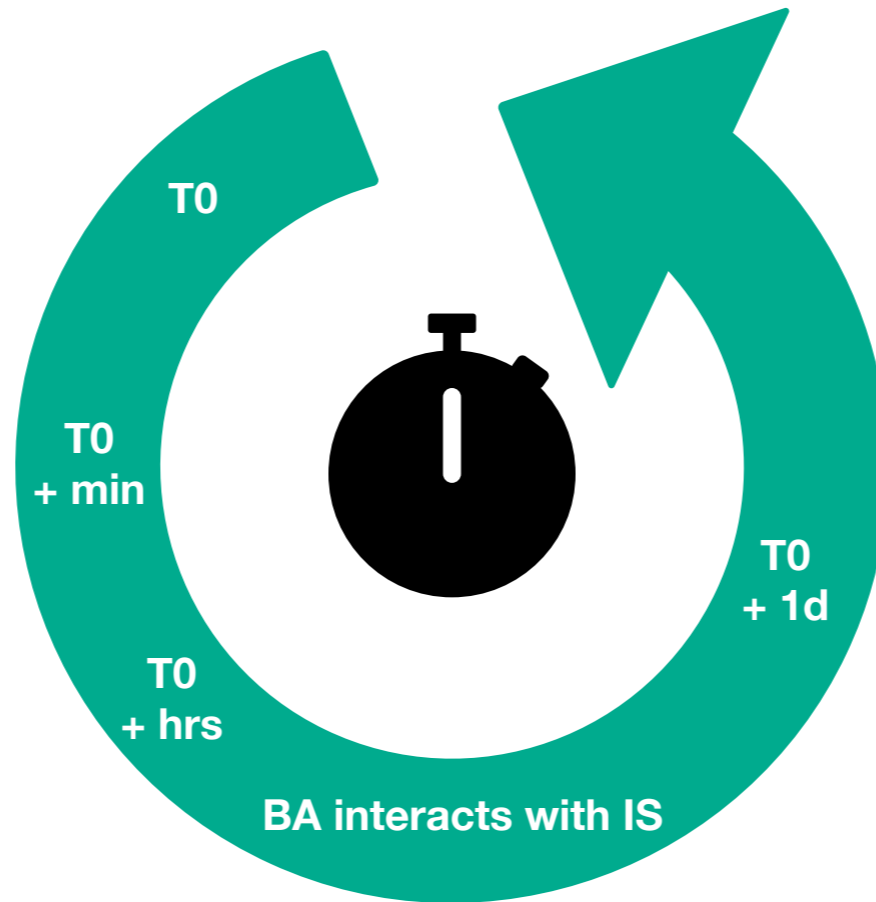
Follow-up with Robotics

Follow-up with Large Telescopes

BA validates N2f/Circular

Videoconferencing  
(revisit, ToO)

BA validates the trigger



Supervise analysis of band X data products  
ECLAIRs, GRM, ECLGRM, MXT, VT  
BA+IS: notices N3 and Circulars

# Background info

## What remains to be done?

to be completed with more recurrent packets

automatic draft generation

Monitor key parameters of the Svom mission  
Tools + Instrument Centers Web portals

BA writes GRB report

training required with Chinese tool this year

BA publishes final circular

BA supervises notices N1 & N2

Follow up with Robotics

BA validates N2f/Circular

which criteria for revisit?

Follow-up with Large Telescopes

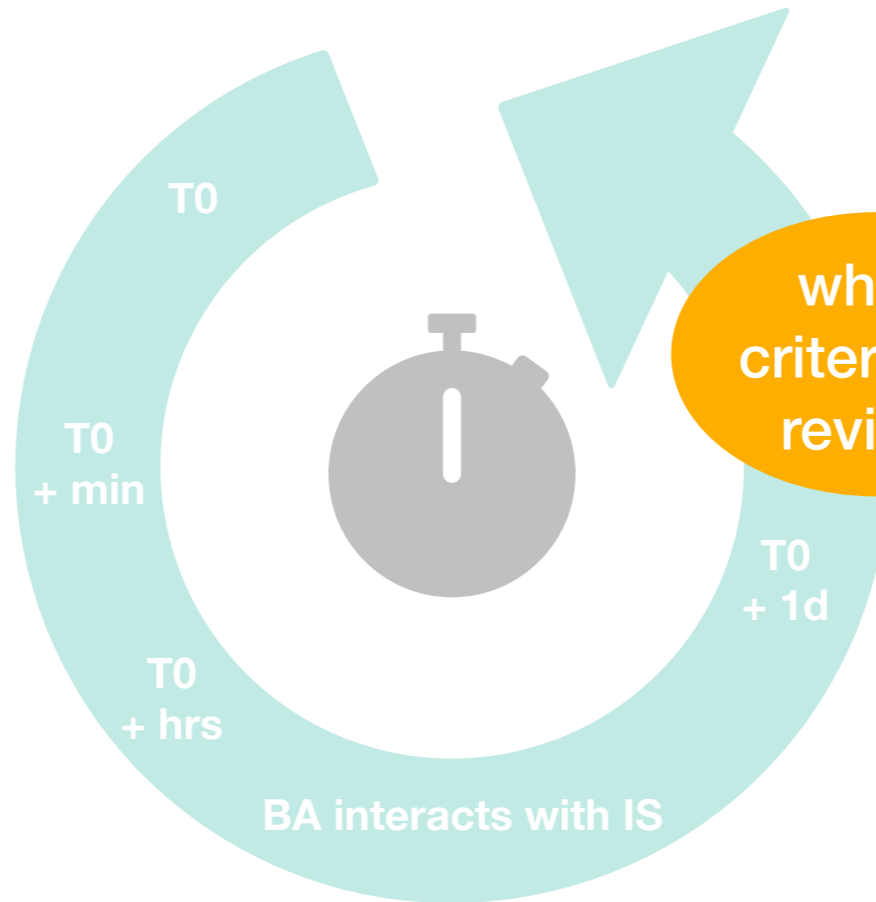
Videoconferencing (revisit, ToO)

BA validates the trigger

not yet implemented for space weather

Supervise analysis of band X data products  
ECLAIRs, GRM, ECLGRM, MXT, VT  
BA+IS: notices N3 and Circulars

x-band data products not yet generated



# Development process and tests

## What are the activities of the BA Working Group?

- Difficult to specify the needs of BA user interfaces  
⇒ AGILE method  
⇒ Regular meetings
- **BA-tools meetings** every two weeks with Chinese colleagues (Wednesday 9:00 LT)
- Sometimes followed by **meetings with French group only**, for debriefing and/or deal with internal issues on French side
- All minutes are available on **redmine**
- **Don't hesitate to join (see next slide)**

### French-Chinese remote meetings

Especially because of the pandemic situation making face-to-face meetings difficult to organize, we propose to keep improving our tools using regular meetings by visio. Regular meetings will occur approximatively every two weeks. Below are the date, agenda and minutes of these meetings.

Join Zoom Meeting <https://zoom.us/j/92584159020?pwd=NmNQRzhkeFhxMjlvSGZNSjdxYmdDdz09>  
Meeting ID: 925 8415 9020  
Passcode: 708286

**Next French/Chinese meeting on 2022 April 13 at 7:00 UTC (9:00 Paris time), zoom regular meeting (1h)**

#### Draft agenda:

- Organisation of Les Houches meeting
- Report on training with Swift alerts (Damien)
- AOB

*List of new actions (see the minutes of last meeting to see the list of pending actions):*

- nil

List of dates envisaged for the following meetings:

06/04/2022 ECLGRM  
13/04/2022 BA tools  
20/04/2022 ECLGRM  
27/04/2022 BA tools  
04/05/2022 no meeting (Chinese Labour Day)  
11/05/2022 ECLGRM/BA tools  
18/05/2022 no meeting (Les Houches)  
25/05/2022 ECLGRM

Slides/minutes of previous meetings:

- 23 March 2022 at 9:00 (Paris time) / 8:00 UTC, zoom regular meeting  
*Agenda and minutes info available [220323 BA-tools regular meeting](#)*
  - Sub-threshold triggers (Stéphane Schanne), slides available [here](#)
  - Organisation of Les Houches meeting considering the Chinese BA-tools interface and the required data production (Xuhui and Liping), slides available [here](#)
  - AOB : communication tools (see minutes)
- 23 February 2022 at 9:00 (Paris time) / 8:00 UTC, zoom regular meeting  
*Agenda and minutes info available [220223 BA-tools regular meeting](#)*
  - Status of the new nomenclature of alerts (Arnaud)
  - Progress in the development of BA tools (Xuhui), slides available [here](#)
  - Plans for the Les Houches meeting (Liping), slides available [here](#)

# Development process and tests

## Useful links

### BA IT (Development)

<https://forge.in2p3.fr/projects/ba-it/wiki>

Slack: SVOM (dedicated channels)

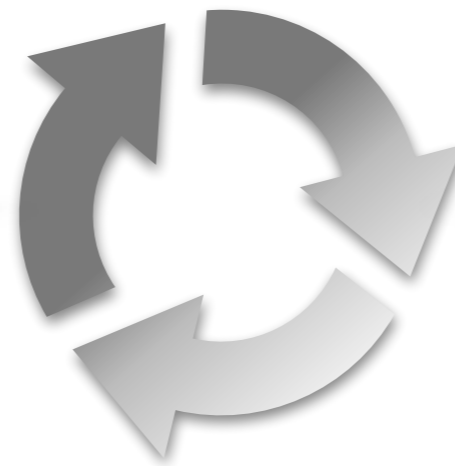
contact person A.Claret

### BA Training (using Swift alerts)

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

Slack: SVOM-BA (dedicated workspace)

contact person D.Turpin



### GRB follow-up (using facilities of official and associate partners)

<https://forge.in2p3.fr/projects/grb-follow-up/wiki>

Slack: in progress

contact person S.Basa

Mailing lists (contact person A.Claret)

**SVOM-FSC-BATOOLS-DEV-L@IN2P3.FR**

BA-O3-SVOM-L@IN2P3.FR



# Development process and tests

## Different tests for different purposes

1. **Data Challenges** within the French Science Ground Segment (*FSC + Instrument Centers, excluding FPOC*)
  - DC-3 (January 2022), data simulated according to an observation scenario and injected in the FSGS real time system
2. **System Tests** involving CNES + FSC & Chinese Centers (CSC, NSSC, MC) (*Instrument Centers not solicited*)
  - **Ground alert loop** (March 2022), several GRB scenarii → see Damien's talk
3. **BA training with real alerts** (*involving reduced group of French and Chinese scientists, including ground telescopes*)
  - Using Ligo-Virgo alerts in the past (run O2 and O3)
  - Using **Swift alerts** (since Q4/2021) → see Damien's talk

# French part

## iFSC-tools (developed by LAM)

- Intensively used during all tests (data challenge, system, training)
- The tests provide real opportunities to improve the performance of the tool and the quality of the displays
- The tool is regularly updated as new products become available

→ see Chrystel's talk

# Chinese part

## General status

- After a long interruption of the development following the departure of their unique developer, a new prototype of the Chinese BA-tools was shown at BA-tools meeting on Feb 23rd, while it was still under test until the end of March
- It was used during the Ground Alert Loop system tests in March, but we did not have the visual on the Chinese side displays
- It is supposed to be used by attendees at Les Houches meeting in May
- We should have more news about this at the next BA-tools meetings (13/04, 27/04 and 11/05)

# Chinese part, cont'd

## Summary from Liping slides at last BA-tools meeting on March 23rd

For Les Houches meeting (mid-May)

- Try to provide the BA tools with the following functions
  - to visualise the products related to optical instruments, including VT, CGFT, F60, GWAC
  - to finish the process of validation for the optical candidates
  - to coordinate the follow-ups with CGFT, F60 or VT/MXT with BA tools
- Data preparation
  - We try to get the image with GFTs in advance in the case of bad weather in May
  - Productions of VT from VHF data for the display in the BA tools for joint analysis

# Issues and priorities

## Short list, not exhaustive

- Adapt the displays according to the feedback from recent tests
- Implement diagnostics for trigger validation (statistics and counterpart are almost ok but need to introduce the space weather criteria)
- **Practice the Chinese tool** as soon as available in order to acquire expertise in validating the afterglow candidates
- More complete simulations of scientific product to finalize the displays, including X band data and Colibri science products
- **Organize tests** all along the year (can be short and targeted tests)
- Write/update the documentation for BA

# Issues and priorities, cont'd

**To be discussed**

**Thank you**