



COLIBRI

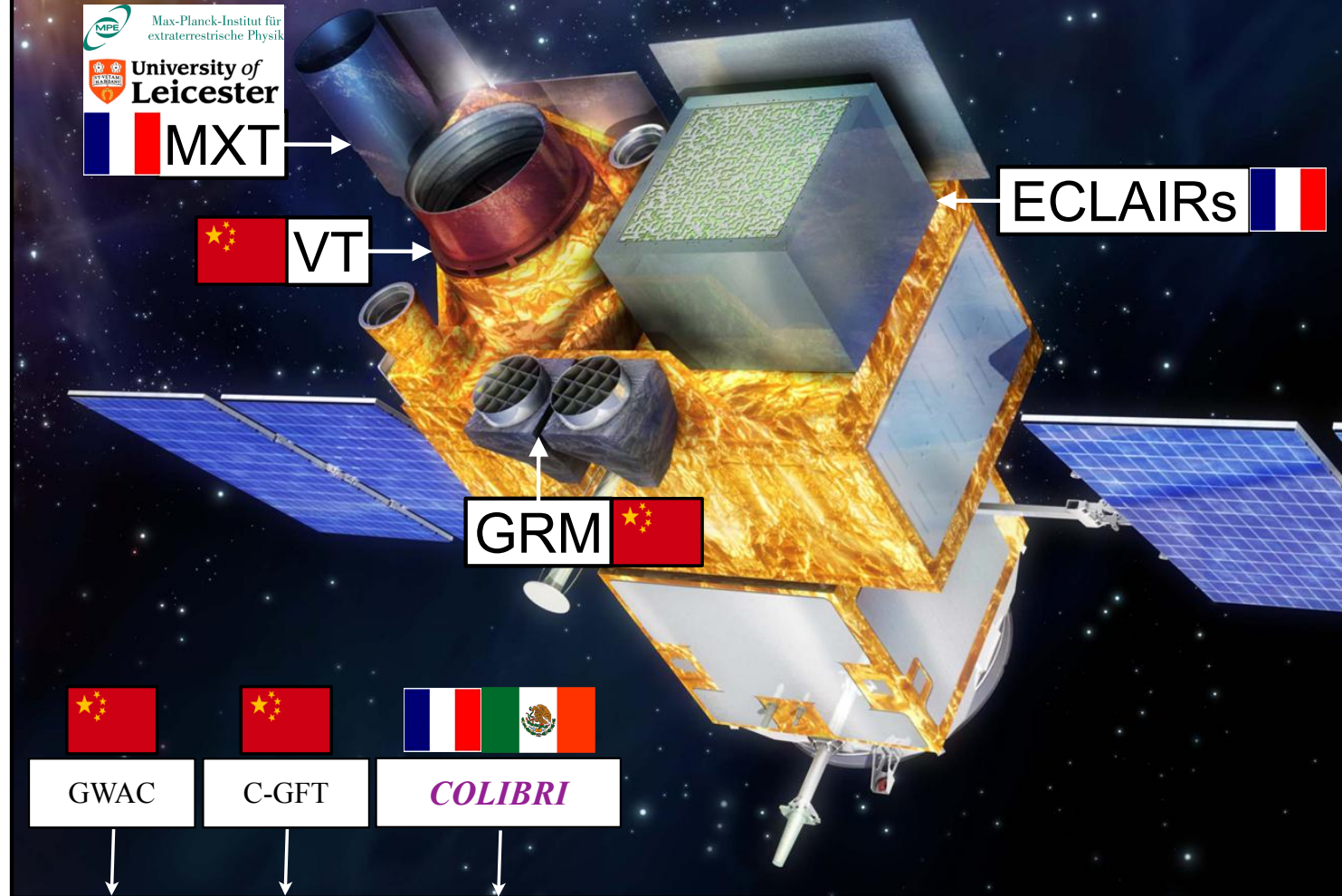
- Status report -



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The SVOM mission



A transient sky follow-up telescope

COLIBRI is an important element of the SVOM system:

- To observe the early optical afterglow during the slew of the satellite.
- To provide fast accurate positions of faint and dark GRBs.
- To provide a fast redshift estimator to trigger instantly the largest facilities (VLT and NTT in particular).
- To complement the photometric follow-up of sources observed by SVOM during the General Program (between GRBs).

But it will be also interested in all the scientific questions addressed by the transient sky: identification of the GWs and neutrinos alerts, the study of the TDEs and the AGNs, etc.

Motivation of the project

COLIBRI is born from the desire of France and Mexico to jointly develop and operate a new telescope dedicated to the transient sky, SVOM in particular, from an excellent astronomical site.

But the ambition goes far beyond by:

- Offering a modern and efficient telescope to the french and mexican scientific communities.
- Strengthening the historical links between France and Mexico.
- Training the youngest researchers in scientific themes at the forefront, and on modern observation and analysis methods.

All this is done in a very strong collaborative spirit.

Main requirements

<i>Diameter of the primary mirror</i>	1.3 m
<i>Field of View (diameter)</i>	26'
<i>Number of simultaneous arms</i>	<ul style="list-style-type: none">• Minimum : 2 arms (1 in the visible et 1 in the NIR).• Goal : 3 arms (2 in the visible et 1 in the NIR).
<i>Sensitivity (300 sec, 5 sigma, AB system)</i>	<ul style="list-style-type: none">• $r = 22.0$• $J = 20.0$
<i>Spectral band</i>	Each arm has its own filter wheel : <ul style="list-style-type: none">• Visible : B, g, r, i, z and y.• IR : J et H.
<i>Delay between receiving the alert and begining an observation</i>	<30 seconds (goal: <20 seconds)
<i>Deadlines to send information to the SVOM Burst Advocate</i>	First information delivered to the FSC about 5 minutes after the alert reception

Institutional partners

France:

- **CNES** funds the developments on the near-infrared camera (CAGIRE).
- **FOCUS/UGA** provides an ALFA near-infrared sensor for CAGIRE (joined FOCUS/ESA development).
- **IPhU (replacing now OCEVU)/AMU** plays a key role in this project by funding the telescope.
- **INSU/CNRS** identified the project as one of its *P0* at the two latest Colloque de Prospective. It provides manpower and funds part of the developments (through CSAA).

Mexico:

- **UNAM** provides manpower, funds infrastructure, and partial funding for the optical instrument.
- **CONACyT** provides partial funding for the optical instrument.

MoU

MoU officially signed in November 2018.

Time allocation as defined in the MoU:

- 10% to the observatory for the hosting of COLIBRI.
- 45% to the French and Mexican scientific communities (equally divided).
- 45% to the consortium (time SVOM including here).

Time sharing must be respected over a six-month period:

- Over shorter time periods, there may be temporary imbalances in the time allocated to Parties.

High level management of the project

A Technical Advisory Committee (chairman: D. Mourard, with CEA, CNES, CNRS and UNAM experts) is convened at each key milestone (PDRs, CDRs, etc.):

- Latest review: the Test Readiness Review (TRR) organized in November 2020.
- Very good feedback from the committee, which appreciated the progresses made despite the context.
- We agreed on a status report with the committee in May 2021, just before the telescope dismounting and transportation to Mexico.

This committee reports to the COLIBRI Board (chairman: J.G. Cuby), which provides oversight for the project and resolves conflicts that may arise:

- Membership: one voting representative from each funding institute (AMU, CNES and CNRS in France, UNAM and CONACyT in Mexico).
- Latest meeting: December 2020.
- Has endorsed all the conclusions of the Technical Advisory Committee.

Where are we now?

A schedule still very dense:

- **Start of the project: mid-2015.**
- **Delivery of the telescope at OHP: June 2019.**
- **Installation of the mirrors: July-August 2020.**
- *AITs/AIVs of the telescope and the visible arm at OHP: December 2020 to May 2021.*
- Transportation and installation at OAN, Mexico: June to October 2021.
- ***Our deadline: the SVOM Launch now scheduled for June 2022.***

And the Covid came...

As for everyone else, Covid has a strong impact on the project:

- In France:
 - *The first containment did not have as many consequences as that: D. Cardoen was able to finish the polishing without any worries and the teams were able to finish the docs that had been waiting for a while.*
 - *The second containment is more painful: impossible to host the Mexican teams at OHP for the AITs/AIVs, not easy to schedule the transportation to Mexico, longer response time from Astelco, etc.*
 - *Impossible for the French team to go to Mexico: this complicates the follow-up of the infrastructure and of the development of DDRAGUITO/DDRAGO.*
- In Mexico:
 - *Observatory completely closed from March to October: the infrastructure could not move forward in 2020 and is now on the critical path.*
 - *Delay to shipping DDRAGUITO (because of access to labs and because engineers with small children were effectively only working half time) and in the design of DDRAGO (half time again).*
 - *Impossible for the Mexican team to go to France to install DDRAGUITO and participate to the AITs/AIVs.*

Solutions presented and discussed during the Test Readiness Review (November 2020) and to the COLIBRI Board (December 2020).



Conclusion

The project is progressing despite the events...

2021 will be a very important year with the AITs/AIVs in France, its departure to Mexico and the reception of the building in Mexico.

We are already preparing its scientific exploitation:

- A LIA/IRL has been active since 2019 and despite the health context, we continue to prepare the science of COLIBRI.



