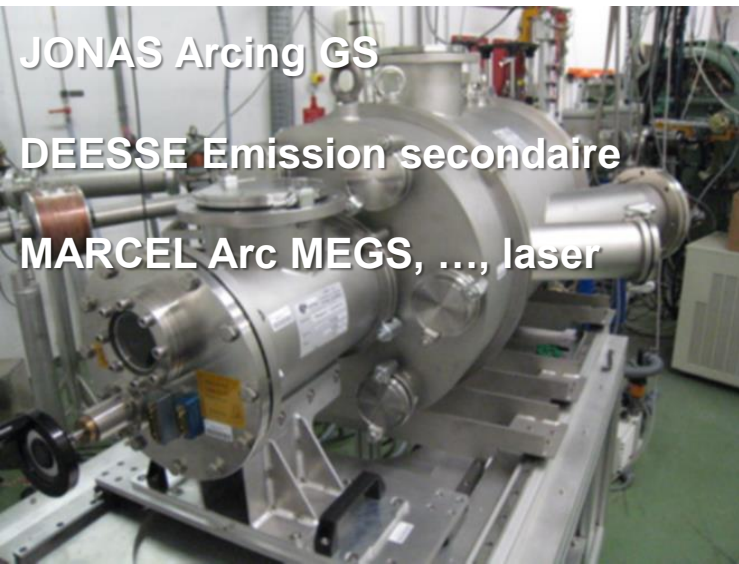
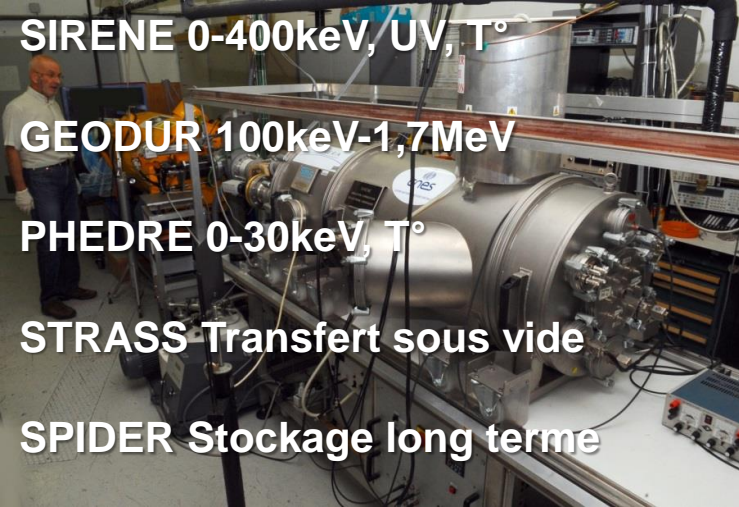




24th SPINE Meeting - NOORDWIJK October 23rd 2017

Materials database at CNES

Denis PAYAN - CNES



State of Art

- Cnes R&D materials testing
 - Over 30 years of data shared with ONERA
 - More and more flight accurate
 - Full dielectric thickness irradiated (Real RIC)
 - Full range of temperature
 - Dose and Ageing Effect
 - Many data, some physical model
 - An average of 200k€/year, a total amount of some M€ more than SPIS total cost
 - Result property is shared with ONERA
 - Funding facilities (SIRENE, STRASS, GEODUR, SPIDER, JONAS, ...) to improve flight representativity of testing

State of Affairs

CNES is a French agency, not european, not worldwide

Cooperation is impossible with some country over the world

Some data are strategic, space industries and CNES will not freely provide their data or model

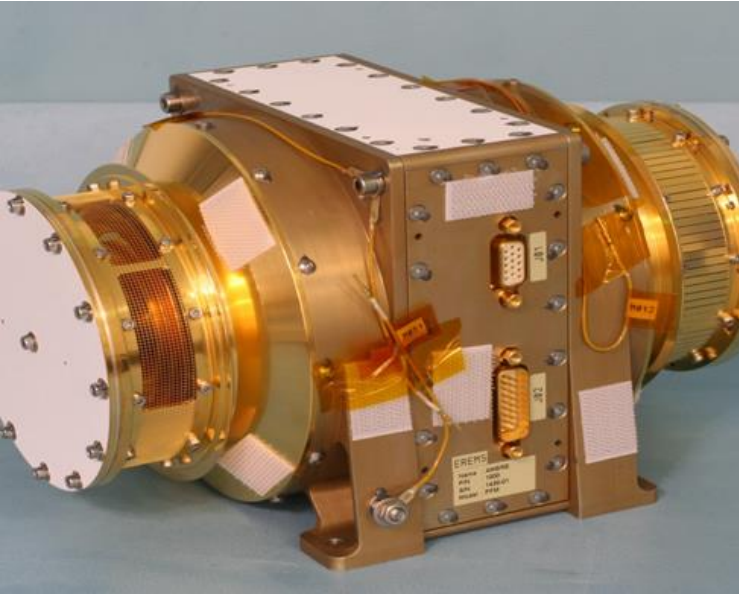
Even in France, we need more and more the participation of space industries to keep on testing materials in the frame of our R&D activities.

Data must be protected, the open question is where is the limit



State of SPIS

- Some development will remain private, some others will be public and shared.
- When SPIS upgrade are available, it is really complicate re-include private development.
- We had to make our developpment compatible with all of them.
- CNES and ONERA are working on a plugin prototype, out of SPIS, out of any environment, but compatible.
- The objective is to centralise the knowledge in a data base
- Everything else is open
 - How will it be distributied (freely or not)
 - To whom?



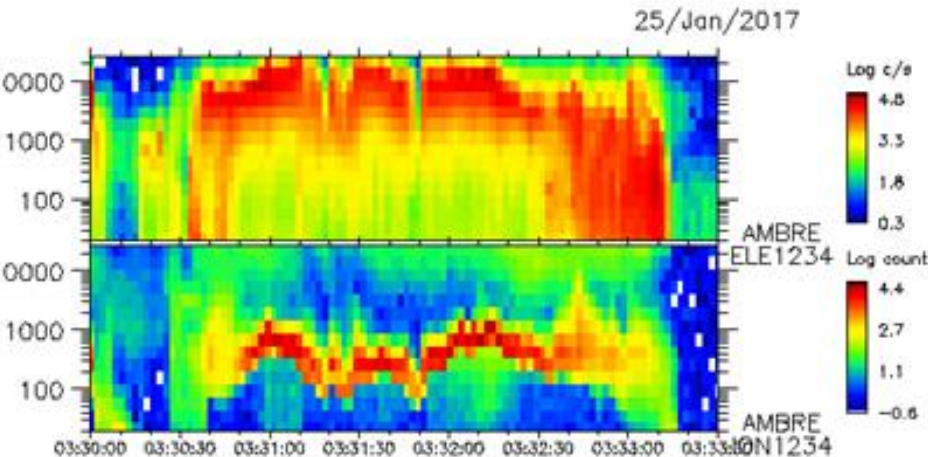
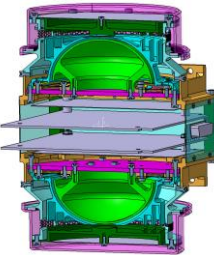
AMBER : The French plasma monitor (0-30 keV) aboard JASON3

Data are available on IRAP Web site CLWEB

www.clweb.irap.omp.eu

Ask to Emmanuel PENOU for an Account

Emmanuel Penou emmanuel.penou@irap.omp.eu



Project Manager Denis PAYAN (CNES)
PI : Jean-André Sauvaud (IRAP emeritus)
Electronic : EREMS
Mechanics parts : COMAT
Testing : IRAP & ONERA
JASON3 : 1336km, 66°