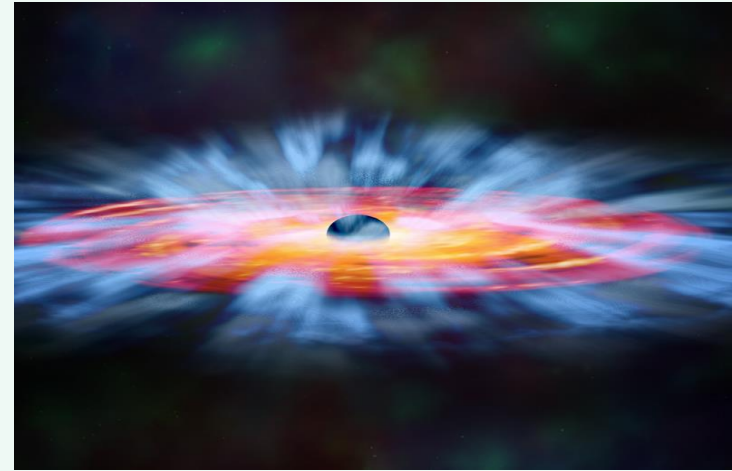
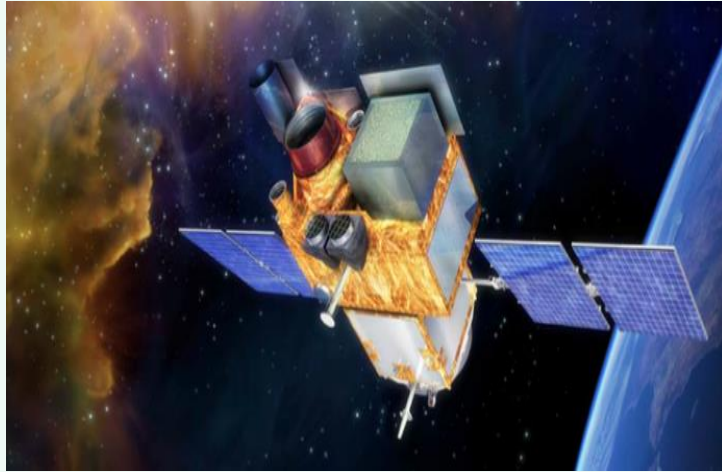




SVOM Science Ground Segment



Observation Support

Andrea Goldwurm

APC – Paris & SAp/CEA – Saclay



Observation Support: Main Tasks



GP/ToO Sc. Req. impact on Obs.Sup:

- Outside GRB observations, calibration observations, operational maneuvers and SAA passages, ECLAIRs, GRM, VT and MXT shall be available to perform science observations of non-GRB source targets with the maximum efficiency allowed by the constraints of the core program.
- ToO can be proposed and defined in the same process of GP definition (and then triggered when criteria are met) or requested directly to SVOM PIs (TBC). ToO shall be performed within 48 hr (TBC) from ToO acceptance/trigger. They are not subject to reference attitude law, but only to normal operational constraints. ToO are interrupted by GRB observations.
- The system should allow scheduling large key programs that can be defined by the SVOM Co-Is. These key programs will represent 20% (TBC) of the GP.
- A-Targets and exceptional ToO
- Ground-based observations

Observation Support Tasks of the Science Ground Center:

- Observer Support
- Announcement of Opportunity Support
- Observation Program



Observer Support



- Install and maintain Web interface for the observers
- Provide documentation of the mission and instrument information needed by the observers (performances)
- Provide updated calibration and response files to allow simulation of sources with SVOM instruments
- Provide online tools to compute
 - Source visibility
 - Exposure time to reach given S/N
 - Tool to chose observing modes etc.
- Provide exposure maps and log of past observations



Support AO call



- Organize and perform regular call of AO (1 per year) providing information needed for proposal submission
- Provide Web interface to deposit observer proposals or a reception system to collect submitted proposal
- Perform a check of feasibility of submitted proposals
- Organize and support the science Time Allocation Committee proposal reviews and meetings
- Provide technical support to the TAC
- Provide TAC results and feedback to proposers



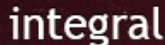

Observation Program



- Build preliminary Long-Term Observation Program (1yr)
- Propose the L-T OP to Mission Operation Center and handle feedback adjust the plans
- Handle interaction with observers till the observations are completed. After that Observers become Data/SW Users and will interact with FSC or CSC.
- Receive from MOC Short-Term Observation program and inform observers
- Tools to submit ToO request, ToO request handling
- Maintain updated detailed log of the observations performed (GRB/ToO interruptions of GP obs.)

Observation Support Tasks: Examples

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TARGET VISIBILITY PREDICTOR

Target Information	
Coordinate Epoch must be 2000. Format can be either decimal degrees or HH:MM:SS.S and DD:MM:SS.S	
Source name (optional)	<input type="text"/> <input type="button" value="lookup"/>
RA or l	<input type="text"/> (e.g. 123.4 or 8:13:36)
DEC or b	<input type="text"/> (e.g. 10.6 or +10:36:00)
Equatorial (RA, Dec) or Galactic coordinates (l, b)	<input checked="" type="radio"/> Equatorial <input type="radio"/> Galactic
Dither pattern	<input checked="" type="radio"/> 5 X 5 <input type="radio"/> Hexagonal <input type="radio"/> Staring
Visibility Information	
Start date (dd-mm-yyyy)	<input type="text" value="29-03-2015"/>
End date (dd-mm-yyyy)	<input type="text" value="28-04-2015"/>
Minimum duration(s)	<input type="text" value="1800"/> (in seconds e.g. 1000, this should be less than one revolution, i.e., ~220000)
<input type="button" value="predict"/> <input type="button" value="reset"/>	

Observation Support Tasks: Examples

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INTEGRAL SOC Target of Opportunity Notification

Target Information

Coordinate Epoch must be J2000.

Format can be either decimal degrees or +/-HH:MM:SS.S and +/- DD:MM:SS.S

Source name	<input type="text"/>	<input type="button" value="Get SIMBAD coordinates"/>
*Right Ascension	<input type="text"/>	(e.g. 123.4 or 8:13:36)
*Declination	<input type="text"/>	(e.g. 10.6 or +10:36:00)
Is this TOO alert for triggering a target in an <i>accepted INTEGRAL TOO</i> proposal for the current AO or is it for a <i>new TOO</i> ?	<input checked="" type="radio"/> Accepted TOO <input type="radio"/> New TOO	

Visibility Information

Please verify the visibility of your target with INTEGRAL.

*Dither pattern	<input checked="" type="radio"/> Rectangular 5x5 <input type="radio"/> Hexagonal <input type="radio"/> Staring	
*Start Date	<input type="text" value="30-03-2015"/>	(dd-mm-yyyy)
*End Date	<input type="text" value="30-06-2015"/>	(dd-mm-yyyy)
*Minimum Duration	<input type="text" value="1000"/>	(seconds)

Observation Support Tasks: Examples

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Integral Target and Scheduling Information

Schedule: All executed Current revolution (1524) Future schedule Revolution to Show... show

Schedule for revolution 1524

(this list is also available in csv-format, click [here](#) to download)

Rev	Start time (UTC)	End time (UTC)	Exp. time (s)	Target	Ra (J2000)	Dec (J2000)	Pattern	PI	Proposal	Observation
1524	2015-03-30 01:33:37	2015-03-30 14:52:53	45000	Crab	05:34:31.94	+22:00:52.2	5x5 Seg	Erik Kuulkers	1220011	1220011 / 0003
1524	2015-03-30 15:53:31	2015-03-30 18:46:51	10400	OMC FF #16	11:18:24.00	+73:30:00.0	Staring	Public	8860306	8860306 / 0001
1524	2015-03-30 18:48:21	2015-03-30 19:21:41	2000	OMC FF #16	11:18:24.00	+73:30:00.0	Staring	Public	8860306	8860306 / 0002
1524	2015-03-30 21:02:57	2015-03-31 03:44:17	23338	Orion BL	05:23:57.33	+02:46:51.5	5x5 Seg	Roland Diehl	1120025	1120025 / 0005
1524	2015-03-31 04:11:51	2015-03-31 05:07:25	3334	Orion BL	05:23:57.33	+02:46:51.5	5x5 Seg	Roland Diehl	1120025	1120025 / 0005
1524	2015-03-31 05:54:06	2015-04-01 06:49:36	86684	Orion BL	05:23:57.33	+02:46:51.5	5x5 Seg	Roland Diehl	1120025	1120025 / 0005



Observation Support OpQ



Open questions:

- ToO request also through AO ?
- Which level of French Obs. Sup is needed ?
- Needs for proposing/planning Key programs
- Needs for associated GFTs Obs.
- Needs for new-messangers associated programs ?
- Level of access rights to information, files, tools ?
- Earth inside FOV !!!!



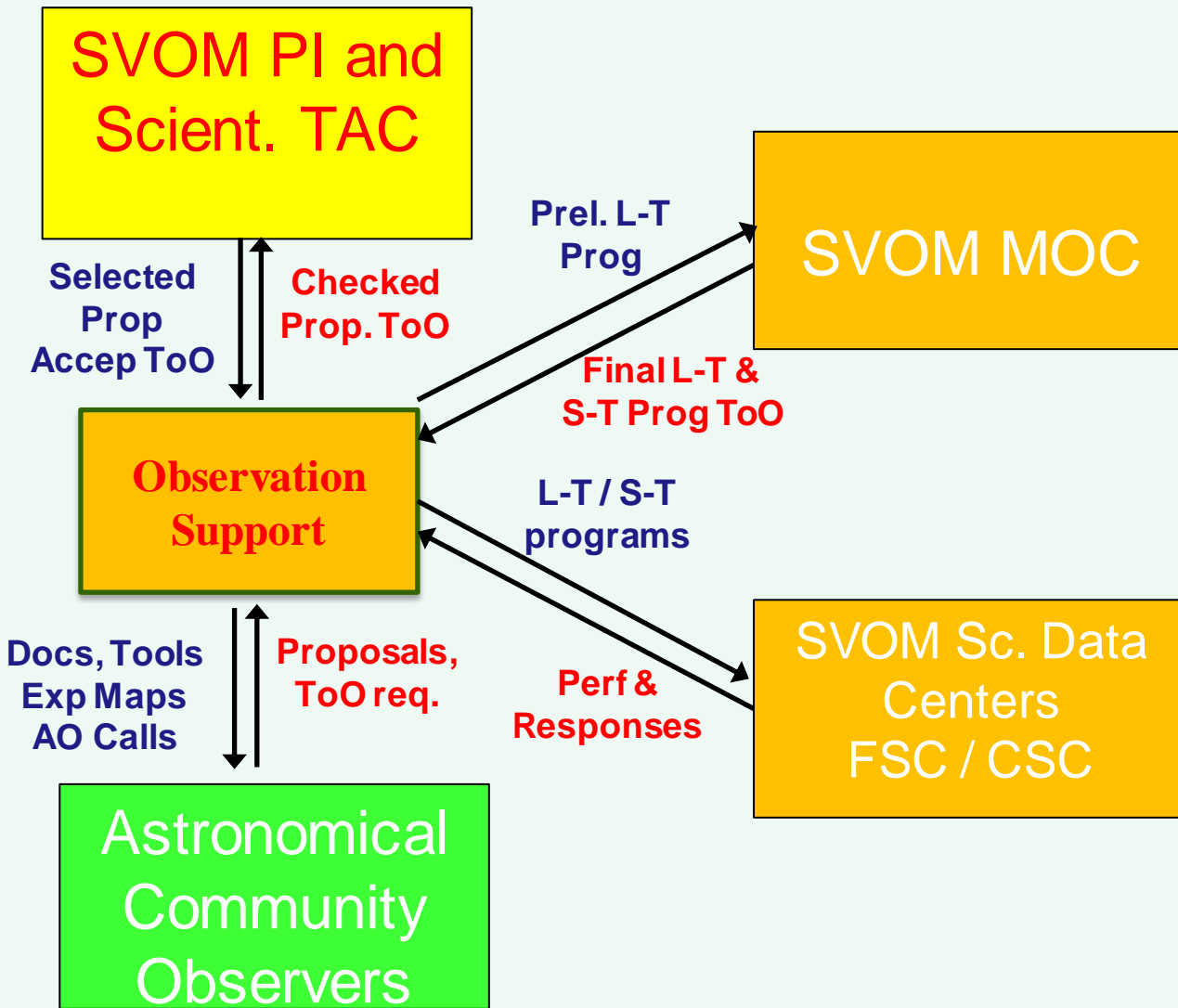
Observation Support



Back Up Slides



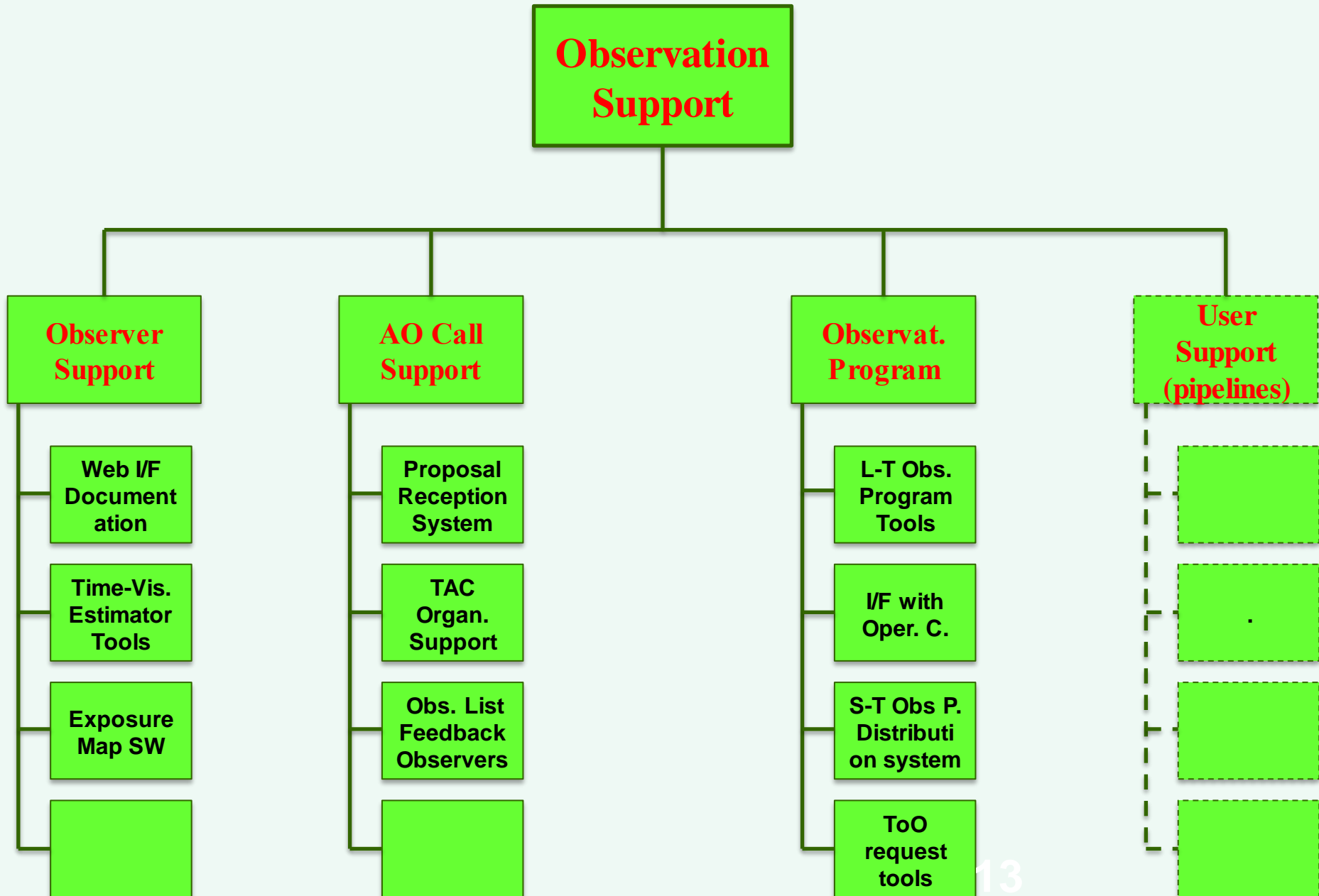
Observation Support: Interfaces



Observation Support System I/F

Can be part of the SCs

FSC General Program WBS (Pre-Operations) - lev 2.1



SFC General Program WBS (Operations) – lev 2.1

