



WebEx, 24–25 Nov 2020

Minutes last updated on May 25, 2021

Attendants

Brian McBreen	University College Dublin	BM (<i>invited TAC chair</i>)
Carlo Ferrigno	ISDC	CF
David Salt	MOC	DS (<i>invited</i>)
Ed van den Heuvel	Univ. Amsterdam	EvdH
Erik Kuulkers	ESA, ESTEC	EK (Project Scientist)
Guillaume Bélanger	ESA, ESAC	GB (Secretary)
Jean-Pierre Roques	SPI, IRAP Toulouse	JPR
Jerome Chenevez	JEM-X, DTU Space	JC (<i>invited</i>)
Jochen Greiner	SPI, MPE Garching	JG
Julien Malzac	IRAP/CNRS, Université de Toulouse	JM
Julie McEnery	NASA	JME
Lara Sidoli	INAF, Milano	LS
Lorraine Hanlon	UCD	LH (<i>chair</i>)
Matthias Ehle	ESA, ESAC	ME (Mission Manager)
Margarita Hernanz	CSIC	MH
Miguel Mas Hesse	INTA Madrid	MM
Philippe Laurent	IBIS, CEA/APC	PL
Pietro Ubertini	IBIS, INAF Roma	PU
Richard Southworth	ESA, ESOC	RS (<i>invited</i>)
Roland Diehl	SPI, MPE Garching	RD (<i>invited</i>)
Sandro Mereghetti	INAF Milano	SM
Sergei Grebenev	IKI Moscow	SG
Sergey Sazonov	IKI Moscow	SS
Søren Brandt	JEM-X, DTU Space	SB
Wim Hermsen	SRON	WH

1 Welcome, Agenda, Actions, Recommendations

EK opened the meeting and welcomed the participants.

1.1 Agenda

Agenda was accepted with no additional items.

1.2 Actions

Action 20–1 on CF: Coordinate the activity to produce a report on cross-calibration

On-going—Infrastructure for cross-calibration product generation is in place and several example sources will be processed e.g. allowing comparison of NuSTAR and INTEGRAL-SPI results (with R. Staubert, JPR is also involved). A report has not yet been generated. Initially a calibration meeting was postponed due to COVID-19 hoping for a later meeting face to face in Rome but more likely online meeting in October. Currently no due date can be given.

Action 24-1 on PU: Call for calibration meeting in October 2020

On-going—Meeting was put on hold due to limited reply after 1st invitation and later due to unknown extension status. Meeting planned for Summer 2021.

Action 21–2 on EK/LH: Maintain a set of publicly available slides on mission status to be used for presentations (due Feb 2020).

On-going—Due date changed in view of extension case preparation. EK collected several presentations also used by Enrico Bozzo for his ISSI seminar talk. In addition, also CF will provide presentations that he and colleagues at ISDC gave in the past. EK plans to put all these presentations now in a public folder, details TBD with GB. New due date: Dec 2020.

Action 21–7 on EK/LH: Review status of documentation available to the public (due at IUG #24)

On-going—No progress. New due date, LH to remind EK. Linked to Action 21–2.

Action 21–10 on PL: Deliver Compton mode analysis software to ISDC. Some difficulties encountered with integration using OSA 11 libraries (due at IUG #24).

On-going—No progress due to COVID-19. Work resumed in September 2020.

Action 21–12 on LH/EK: To clarify the status of the Crab cross-calibration paper (originally due July 2019).

On-going—Status unclear.

Action 24–2 on EK: Directly after IUG #24: Send reminder from EK/LH by email.

Closed—Reminder was sent.

Action 21–14 on PL: To begin writing ISGRI calibration report and report at IUG #24.

On-going—Delays due to COVID-19.

Status: Work has started at Saclay with a small dedicated team. Also to be worked on during planned calibration meeting. Started a paper on the evolution over 18 years. Project is in good shape.

Action 21–15 on EK: To discuss with CF how to present the cross-calibration results and OSA11 results on the web

Pending work related to Action 21–12.

Action 22–7 on PL: Check mission documentation for agreement on software deliverables from instrument PI in regards to polarisation-specific software (due IUG #25).

On-going—new due date end of 2020.

CF: Already produced calibration tables, pending responses. Complex work with limited available resources.

Action 23–2 on SG/SM: Share data on GRBs found by RSDC analysis with SM to understand why they were not triggered by IBAS (due IUG #24).

Closed — SM presented the status of GRB detection threshold at IUG #25. Re-analysing all the data from the start of the mission, 113 GRBs were found: 4 IBAS-detected not detected; 11 new ones in FOV not seen by IBAS, 4 of which were detected by other instruments; 886 GRBs out of FOV confirmed by other instruments. (See [viewgraphs](#) and details in RSDC paper by [Chelovekov et al. 2019.](#))

Action 23–4 on PL: Write a brief explanation of new calibration approach for IBIS to go on the OSA web-page (due December 2020)

On-going.

Action 23–5 on PU: Organise calibration meeting to be held in/around May 2020 (due January 2019)

Closed — transferred into Action 24–1.

2 Presentations

2.1 ISOC: Scheduling after ESAM 8 — GB ([viewgraphs](#))

2.2 MOC: The aftermath of the 8th ESAM — RS on [MOC overview](#) and [Z-flip](#), and DS on [anomaly analysis](#))

Being asked by IUG about possible synergies with XMM-Newton and the time needed to slew to a “Superfast ToO”, RS explained that some parts of the new operational approach for INTEGRAL could be useful for XMM-Newton. For example, controlling the wheel speeds over more than one revolution such that a Reaction Wheel Bias (that interrupts an observation) can be avoided. A first meeting with the XMM-Newton SOC/MOC is planned for December. For the “Superfast ToO” it is expected (but TBC) that it will be possible to be on target after 1.5 to 2 hours.

The IUG acknowledged the impressive work done at MOC and ISOC, and congratulated the teams for all the efforts invested to re-enable INTEGRAL science operations.

Action #25–1 on RS	Due: in due time
<i>Hold ESOC seminar on the anomaly and recovery. Circulate slides to IUG</i>	

2.3 Project Scientist: innovative ideas for future science operations — EK ([intro](#) and [conclusion](#))

Action #25–2 on EK	Due: End-Dec
<i>Get exact dates of planned timeline for Virgo/LIGO O5</i>	

2.4 Mission Manager: Outcome of SPC — ME ([viewgraphs](#))

2.5 ISDC: Why INTEGRAL is essential for HE Astrophysics — CF ([viewgraphs](#))

Action #25–3 on PU	Due: Friday 11 Dec 2020
<i>Write section about multi-messenger science for delta extension case.</i>	

2.6 IBIS: Report on Activities — PU ([viewgraphs](#))

3 INTEGRAL Conference in Italy

The venue is the same (Sardinia) as previously discussed. Dates have been changed to 24–29 May 2021. If this is not possible, delay to Sep or Oct 2021. The idea is to hold the conference as soon as it becomes possible given the evolution of the COVID-19 situation. If the face-to-face conference in the end is not possible in Sep or Oct 2021, the meeting shall be organized as a virtual conference (and use a more interesting setup than just using WebEx or Skype).

Action #25–4 on PU	Due: end Dec 2020
<i>Define new dates and format for meeting in Sep-Oct 2021 time frame.</i>	

4 Special Issue – 15 Years of Science with INTEGRAL

EvdH gave a status report that can be summarised as follows:

- Total of 15 papers expected.
- Nine have been published. Two are almost ready.
- These 11 papers are of all excellent quality.
- Four are unfinished and progress is unclear.
- Intention is to publish a book with all 15 papers.

Action #25–5 on EvdH

Due: End-Dec

Follow up with lead authors of outstanding papers to encourage progress.

5 Impact of COVID-19 on IUG activities

None reported.

6 Ideas regarding science operations

After a lengthy discussion, consensus was found for the following ideas:

- Replace Announcements of Opportunity by an open programme.
- Observations based on monitoring the galactic plane for transient activity.
- Focus on discoveries and following up transient sources.
- Focus on bright sources for maximum science return.
- Maximise synergies and coordination with other observatories.

7 Next Meeting

TBD

Action #25–6 on EK

Due: in due time

Send doodle to define dates.