# Newsletter of the
# INTEGRAL Science Operations Centre

**No. 2**                                                              **February 2001**

## Announcement of Opportunity AO-1: First Results

*Norman Trams - Resident Astronomer*
*Paul Barr - Resident Astronomer*
*Astrid Orr - Operations Scientist*
*Christoph Winkler - Project Scientist*

The deadline (16 Feb 2001, 15:00 CET) for submission of INTEGRAL proposals for open time observations is now a few days behind us. All proposals are now in the ISOC database. Below are some preliminary statistics on the proposals that have been received. Further details will be made available in the next issue of this Newsletter.

### Proposer IDs

In total 308 proposer IDs were given to observers who sent a request to the INTE-GRAL helpdesk. On average the proposer IDs were assigned by ISOC within one day of the request.

### Total number of proposals

The total number of proposals received was 291. The total observing time requested in all proposals is approximately 323,000 ksec. Given that ~ 17,000 ksec are available in the first year, this means an oversubscription of 19 (see details below). This is an extremely high value, also compared to other high-energy missions like XMM (6.8), CGRO-Comptel (2.5), CGRO-Egret (5), BeppoSAX (5).

Almost all proposals arrived at ESA-ISOC during the last week before the AO deadline, with 85% arriving in the final 48 hours, culminating in 250 submissions during the final 15 hours. The figure below shows the time history of the proposal reception at ISOC.



INTEGRAL AO-1 Open Time Proposal Submission
Closing deadline: 16 Feb. 2001, 15:00 CET
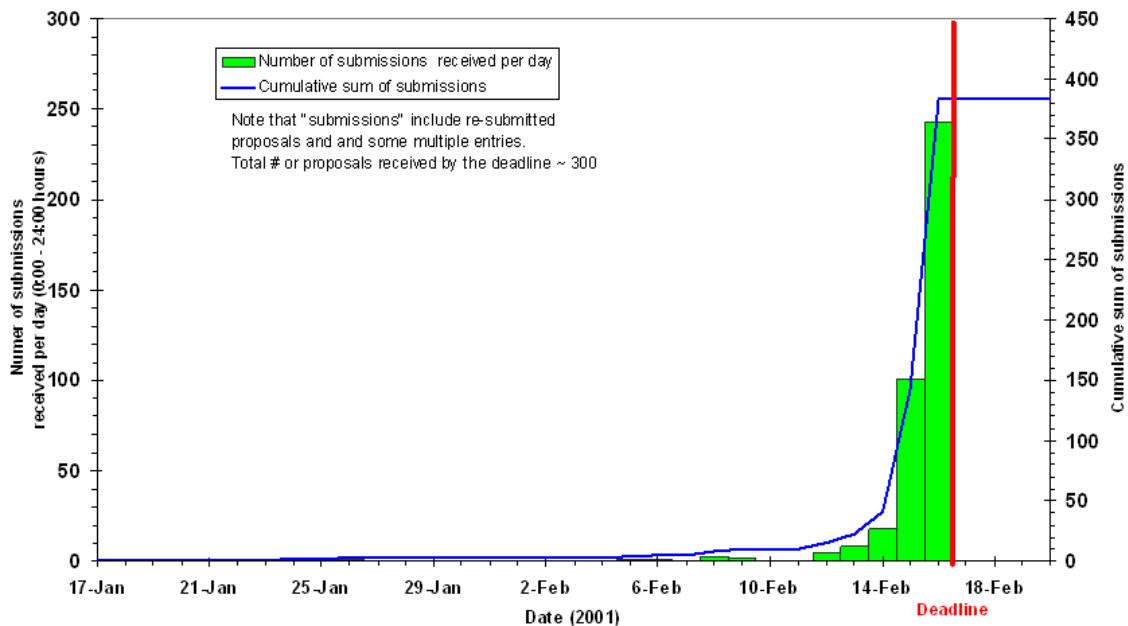
## Proposals per category

In the following table we give the breakdown of number of proposals as a function of the proposal category. Note that the numbers on total requested observing times do include TOO proposals where, for the time being for this quick analysis, it has been assumed that a typical TOO proposal requests about 10% of the total observing time as included in PGT from all the candidate sources included in the proposal. Further analysis may modify this assumption but the impact on the overall results should not be large.

| Category | $N^a$ | $T^b$ $(10^6 s)$ | $F^c$ |
|---|---|---|---|
| Compact objects | 121 | 128.5 | 7.5 |
| Extragalactic objects | 91 | 94.5 | 5.6 |
| Nucleosynthe-sis | 46 | 76.4 | 4.5 |
| Miscellaneous (incl. GRB) | 33 | 23.4 | 1.4 |

a. N = total number of proposals
b. T = total requested observing time
c. F = oversubscription factor, year 1 (~ 1.7 x $10^7$ s)

In number of proposals the *Compact objects* category is the biggest, followed by the *Extragalactic objects* category. *Nucleosynthesis* and *Miscellaneous* are clearly smaller. In amount of requested observing time, however, the *Nucleosynthesis* category is significantly more important. This is mainly due to the fact that this category contains a relatively large number of SPI proposals.

The Time Allocation Committee, in charge of peer reviewing all proposals and recommending the scientific observing programme to ESA will meet on 14 - 18 May 2001 at ESTEC.



**The flight model of SPI at CNES, Toulouse (December 2000)**

### Payload Status
*Paul Barr - Resident Astronomer*

The SPI FM has been fully integrated at CNES, the functional tests have been completed and EMC testing has started. The IBIS FM programme is proceeding. Some problems concerning the optical coupling between photodiodes and CsI detector pixels were encountered in the thermal vaccuum and thermal balance tests for IBIS/PICsIT and are under investigation. JEM-X FM integration has started. OMC FM was delivered in October and is fully integrated with the spacecraft.

### INTEGRAL Science Data Centre
*Julian Sternberg - Software System Engineer*

ISDC's main software development heads towards a completion target of April 2001 (for the general part) and later in 2001 (for the scientific part of Standard Analysis), although some software contributions by Instrument Teams continue to be affected by priorities within those teams.
The Observation Simulator is now available for use by the public. It can "simulate an observation", i.e. generate output files suitable

for testing other data analysis software or for generally getting experience with INTEGRAL data. ISDC's latest newsletter (http://isdc.unige.ch) contains more about its capabilities and limitations.

Starting from this month, ESA has reinforced its support for ISDC by funding some project control staff and further software engineers to cover a critical phase of the archive development. Together with this new support, possible ways of enhancing the archive functionality and profiting to the maximum extent from a joint ESA/ISDC development are being studied.

## INTEGRAL End-To-End Test
*Nigel Dean - Software Engineer*

In December 2000, the Integral Ground Segment carried out an End-to-End test with the OMC and JEM-X flight models (and SPI simulator) on the spacecraft. This allowed ISOC to generate a command schedule which ESOC's Mission Operations Centre could execute on the instruments in real-time. In addition ISDC could process the resulting real-time telemetry and coordinate this with planning information provided by ISOC. The test demonstrated the ability of the ground segment to plan, execute and process observations, and it allowed the ground segment test teams to gain a valuable insight into the current development status of the software as well as highlighting future test needs. A number of problems were also detected, particularly in the area of command timing. The nature of these problems, which are currently being addressed, showed the value of testing the planning process against real instruments. A further test, involving all instruments, is tentatively planned for July 2001.

## Any Other Business



*Scientists attending the INTEGRAL Science Working Team meeting on 16 & 17 Jan. 2001, ESTEC. From right to left: S. Grebenev, A. Gimenez, C. Winkler, J. Paul, N. Lund, V. Schönfelder, G. Palumbo, G. Vedrenne, A. Dean.*

### How to reach the ISOC?

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(*name* = first initial and surname, max 8 characters)

### Table 1: Key ISOC personnel[a]

| Name | Function | Phone |
|------|----------|-------|
| Winkler, C. | Project Scientist | 3591 |
| Hansson, L. | Science Ground Segment Manager | 3471 |
| Barr, P. | Resident Astronomer | 5139 |
| Trams, N. | Resident Astronomer | 3476 |
| Much, R. | Operations Scientist | 4756 |
| Orr, A. | Operations Scientist | 3943 |
| Sternberg, J. | System Engineer | 4001 |
| Breneol, C. | System Engineer | 4937 |
| Nolan, J. | Operations Engineer | 3401 |
| - vacant - | Secretary | 5818 |

a. The complete list of ISOC staff is available on the ISOC WWW