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ISTC 2
10 December 1999

ISOLDE AND NEUTRON TIME-OF-FLIGHT EXPERIMENTS COMMITTEE (ISTC)

Minutes of the second meeting on
Monday 29 November, 1999

CLOSED SESSION

Present: B. Allardyce, J. Aystö, C. Détraz, J.-P. Duraud, J. Eades (Secretary), H. Flocard (Chairman), K.L. Kratz, K.P. Lieb, L. Maiani, E. Migneco, T. Nilsson, H. Ravn, C. Rossi-Alvares, B. Rubio, W. Scobel, G. Sletten, P. van Isacker, R. Voss, P. Walker.

Apology: W. David.

At its September meeting, the Committee decided that a substantial part of the present meeting would be devoted to an examination of the backlog of approximately 700 shifts in the ISOLDE experimental programme. In the meantime three new ISOLDE proposals have been received. None of these has special scheduling constraints, and their possible addition to the ISOLDE schedule can be adequately taken into account pending the Committee's later decision. It was therefore decided to defer the Open presentation of these proposals until the February meeting, cancel the Open Session of the present meeting, and replace it by an extended Closed Session exclusively devoted to the backlog problem.

The minutes of the September meeting were approved after noting that the 3.9×10^{13} protons per pulse mentioned therein in connection with a possible change of the PS booster energy to 1.4 GeV should not be considered as an operational level, although such an intensity has in fact been achieved in test situations.

The CERN Director General, L. Maiani opened the proceedings by noting that the Research Board had received the Chairman's remarks concerning the present review of the backlogged experiments with satisfaction, and encourages the ISTC in its timely confrontation of this problem.

Thomas Nilsson, ISOLDE coordinator then presented a breakdown of the shift backlog. He reported that one year ago there were 621 outstanding shifts of which 196 were on the account of REX-ISOLDE. In the last four meetings, a further 257 shifts have been approved, while 195 were delivered during the 1999 run period. The present situation is that there are 692 outstanding shifts, 208 of which are due to REX-ISOLDE. The reasons for this accumulation vary, from lack of resources to the desire of some experimental groups to spread their experiments over several years.

In discussing this report, H. Flocard stressed that the aim of the present meeting was not a scientific re-evaluation of the experiments concerned. This job had been done at preceding ISC Committee meetings with the same qualifications and competence as the present ISTC and the decisions taken had subsequently been approved by the Research Board. The task before the ISTC is rather to decide on a global strategy for reducing the backlog to what is considered by the ISOLDE coordinator to be a normal working value, corresponding to about 1.5 years of running time (i.e. a reduction by about 150 shifts).

C. Détraz, CERN Research Director, pointed out that an additional reason for carrying out the present review is to explain to the wider community of CERN why unfinished experiments approved several years ago were still scientifically valid. A failure to do this might be seen as a structural weakness in the ISOLDE resarch programme. In this view, periodic assessments of progress of approved experiments should play an important role in the Committee's future attempts to keep the backlog down to a reasonable value.

Experiments contributing to the backlog that, according to a study of the programme made by the chairman with the help of the ISOLDE coordinator, appear to be worth a closer look by the Committee were then briefly discussed under four categorisations suggested by the chairman. All experiments in the same category were considered to be on an equal footing.

I. Experiments recommended by the Committee before 1996 (but excluding REX-ISOLDE):

IS300 (ISC 91-4/P2): A search for axions and massive neutrons.

IS301 (ISC 91-6/P4): Effect of particle-core-vibration coupling near the double closed ^{132}Sn nucleus from precise magnetic moment measurements.

IS306 (ISC 91-3/P1, ISC 91-24 P1 Add.1): Systematic measurements of the Bohr-Weisskopf effect at ISOLDE.

IS311 (ISC 91-30/P18): The electronic structure of impurities in semiconductors.

IS314 (ISC 91-34/P 22): Measurements of electric quadrupole moments of neutron deficient Au, Pt, and Ir nuclei with NMR-ON in hcp-Co.

IS315 (ISC 91-7/P5, ISC 92-6/P5 Add.1, ISC 95-20/P5 Add.2): COllinear Spectroscopy Measurements using a Pulsed Laser Ion Source (COMPLIS).

IS332 (ISC 93-5/P43): The Search for M3 transitions in ^{183}Pt and ^{181}Os.

IS347 (ISC 94-25/P68): Radioactive beam EXperiments at ISOLDE: Coulomb excitation and neutron transfer reactions of exotic nuclei.

These experiments were initially allocated a total of 176 shifts, of which 88 are still to be used. It was decided to withhold the outstanding shifts for these experiments until discussions between experimental spokesmen and Committee members appointed as referees on an experiment-by-experiment basis have clarified their present status. A letter will inform each spokesman about the relevant Committee members and the information requested.

II. Experiments recommended between 1996 and 1998 and having used less than 80% of their allocated beam time:

IS302 (ISC 91-9/P6, ISC 95-8/P6 Add.1): High-accuracy mass determination of unstable nuclei with a penning trap mass spectrometer.

IS303 (ISC 91-11/P8): Tilted-foil polarisation and magnetic moments of mirror nuclei at ISOLDE.
(ISC 96-31/P87): Measurement of the magnetic moments of T=3/2 Nuclei in the S-D shell using the tilted foil polarization technique.

IS344 (ISC 94-7/P60, ISC 96-12/P60 Add.1): Laser spectroscopy of neutron rich bismuth isotopes.

IS355 (ISC 96-2/P77): Search for detour transitions in the radiative IC decay of ^{81}Kr.

IS356 (ISC 96-11/P80): Search for physics beyond the standard model via positron polarization measurements with polarized ^{17}F.

IS357 (ISC 96-15/P81, ISC 96-26/P81 Add. 1): Gold and platinum in silicon-isolated impurities and impurity complexes.

IS362 (ISC 97-12/P89): Diffusion in intrinsic and highly doped III-V Semiconductors.

IS365 (ISC 97-31/P96): Nuclear spectroscopy with copper isotopes of extreme N/Z ratios.

The initial allocation totalled 276 shifts, of which 119 remain. In these cases, the shift allocation stands, but spokesmen will again be asked by letter to provide information to the Committee concerning present status, plans etc. As above, Committee members will be appointed to every experiment, and spokesmen are strongly advised to discuss their case with these referees.

III. Test experiments and LOIs reccommended 1996-1998 (18 shifts allocated, 15 used):

ISC 96-23/P83: Test: Electron Paramagnetic Resonance Investigations of Isolated Impurities and Impurity Pairs in Silicon.

ISC 95-30/I18: Test: ^{73}Ge Moessbauer spectroscopy in semiconductors.

ISC 97-28/P95: Test: Study of ^{163}Ho-decay for a neutrino mass experiment.

The procedure for test experiments and LOIs will be identical to that for category 2.

IV. REX-ISOLDE:

Some 150 shifts were initially allocated to the REX-ISOLDE source-accelerator project in 1995, while about 60 more have subsequently been approved for specific experiments using REX-ISOLDE beams. It is expected that REX-ISOLDE will start operation next year and the Committee considered that the first priority is to make it operational, after which that part of the backlog associated with the experiments approved since 1995 can be considered. By the next meeting, the Committee will therefore review the status of the original allocation with the goal of arriving at a good estimate of the number of shifts required for commissioning REX-ISOLDE and for carrying out one or two initial demonstration experiments.

GENERAL DISCUSSION

After these experiment-by-experiment discussions, the ISTC discussed more generally what steps could be taken to avoid perpetuating the situation that has resulted in the present backlog. The following possibilities were discussed:

1) Concerning the present backlog, ongoing projects to be subject to review by the ISTC on a regular basis. In particular, all experiments approved before 1997 to be reconsidered in 2000.

2) Limitation of the validity of the attribution of shifts to any future experiment to a period of three years (this being approximately the period over which the entire membership of the Committee changes). The three-year period would begin on the date the experiment was approved, and outstanding shifts at the end of the period would be cancelled. Prolongation of the activity would require a new proposal (or an addendum) to the ISTC with an appropriate request for a new allocation of shifts.

It was agreed to reconsider these points at the next meeting with a view to adopting them formally as general guidelines for future proposals.

OTHER BUSINESS:

It was pointed out that the Committee's ISTC acronym is already well-established for the International Science and Technology Centre in Moscow. From January 1, 2000, the Committee will therefore be known as the INTC (ISOLDE-Neutron Time of flight Committee).

The Committee has received the following ISOLDE proposals:

ISTC 99-4/P115: Diffusion Mechanisms and Lattice Locations of Thermal-Equilibrium Defects in Si-Ge Alloys.

ISTC 99-5/P116: Isospin mixing in $N \approx Z$ Nuclei.

IS359 (ISTC 99-6/P85 Add.1): Investigations of Deep-Level Fe-centres in Si by Mössbauer Spectroscopy.

As remarked above, open presentation of these proposals has been deferred to a forthcoming meeting.

Dates for meetings in 2000:

February, 28–29
May 15–16
September 25-26
November 27–28.

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