

CERN-ISC 98-8
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ISOLDE EXPERIMENTS COMMITTEE

Minutes for the twenty-third meeting on
Monday 9 February 1998

OPEN SESSION: Monday, 9 February, at 14.00 h, Council Chamber.

The chairman first welcomed two new members, Karl-Ludwig Kratz of Johannes Gutenberg Universität (Mainz) and Piet Van Isacker of GANIL (Caen) to the ISC. He also extended greetings to Thomas Nilsson of Göteborg, who on February 1 took over as ISOLDE Coordinator from Doris Forkel-Wirth.

The ISOLDE technical group leader then presented his report. Noting that the shutdown period is still in progress, H. Ravn described the problems caused by a recent leakage of a substantial quantity of (nonradioactive) concrete dust into the ISOLDE "laboratory area" or experimental hall. This was caused by the bad fit of the main entrance door, transferred from its previous location during the extension of this hall. The cleanup procedure was completed only on Friday 6 February and the associated problems will delay work scheduled to be accomplished during the 1998 shutdown by up to a month. This work includes realignment of beams caused by floor subsidence, installation of new magnet power supplies for the high resolution separator, and installation of a variety of REX-ISOLDE equipment. H. Ravn also described progress on the ISOLDE beam development programme, including the important element of the Laser Ion Source.

Thomas Nilsson then gave a short presentation of the ISOLDE schedule between mid-May and the end of July. The startup date is somewhat uncertain owing to the above-mentioned problems, but the Laser Ion Source is expected to be brought into operation on March 1 as planned for offline developments.

Presentations were then made of the following proposals and progress reports:

1. Beta-decay studies of dripline isotopes of Be (Caen - Göteborg - Aarhus - Madrid - Troitsk - Orsay - Mainz - CERN - Darmstadt); CERN/ISC 98-6/P99; G. Nyman.
2. Measurement of the ${}^7\text{Be}(p,\gamma){}^8\text{B}$ cross-section with an implanted ${}^7\text{Be}$ target: An addendum to ISOLDE proposal P91 and Beam-Time Request (Rehovot - Troitsk - Mainz - CERN - ISOLDE Collaboration); CERN/ISC 98-5/P91 Add.1; M. Hass.
3. Combined electrical, optical, and structural investigations of impurities and defects in wide-gap II-VI compounds (CERN - Berlin - Jena); CERN/ISC 98-4/P35 Add.2; M. Wienecke.
4. Structure and kinetics of vacancies and self-interstitials in ferromagnetic Fe: An approach using ${}^{57}\text{Mn} \rightarrow {}^{57}\text{Fe}$ Moessbauer spectroscopy (CERN - Aarhus - Troitsk - Berlin); ISC 98-3/P97; R. Sielemann.

CLOSED SESSION:

Present: B.W. Allardyce (part time), R. Ammerlaan, G. Bollen, J. Eades (Secretary), L. Foà, P. Van Isacker, K-L Kratz, T. Nilsson, D. Habs, M.J. Price (for K. Peach), H. Ravn, A. Richter (Chairman), G. Sletten, F.-K. Thielemann.

Apologies: D. Fick, W. Gelletly.

The minutes of the twenty second meeting were approved without change. The chairman reported that meeting's recommendations to the Research Board had been accepted without problems.

In connection with the dust leakage problem referred to above, B.W. Allardyce said that there were no foreseeable technical problems associated with recuperating part of the lost time after the end of scheduled PS 1998 operation early in December. Any request for an extension of the run period would, however, have to be discussed in the context of the overall PS plan for the 1998-1999 shutdown period, and L. Foà said that he will take this matter up at the Directorate level. The ISOLDE in-house group and the ISOLDE collaborations will for their part cooperate by minimising the delay to be made up by any such extension.

Concerning the laser ion source H. Ravn placed on record the excellent cooperation in all technical spheres with the Institute of Spectroscopy at Troitzk, Russia which has provided much of the laser equipment. The Russian commitment in this amounts to an effective subsidy of about one million SF. At the same time the Russian contribution in expertise and personnel has been of the highest quality, and it is hoped and expected that this will continue.

The closed meeting then continued with a discussion of the proposals and progress reports presented in the open session, as follows:

P99: *Beta-decay studies of dripline isotopes of Be*

The proposal was well received, as representing a unique opportunity for using the laser ion source to do topical and interesting nuclear physics experiments on light dripline nuclei. A clean experimental method will be backed up by the presence of theoretical expertise within the group in interpreting the results. The first allocation of 2 X 6 shifts will therefore be scheduled as requested. After a progress report has demonstrated adequate initial success, Research Board approval will be sought for the remaining 12 shifts.

P91 Add.1: *Measurement of the ${}^7\text{Be}(p,\gamma){}^8\text{B}$ cross-section with an implanted ${}^7\text{Be}$ target: An addendum to ISOLDE proposal P91 and Beam-Time Request*

After some discussion it was decided that the points raised by the committee in its May 1997 meeting had been sufficiently well answered for the Chairman to proceed to the Research Board with the request for the additional 12 shifts. The problem of backscattering having been raised by the spokesman in his presentation, it was suggested that the collaboration may wish to look into the possibility of using commercially available foils.

P35 Add.2: *Combined electrical, optical, and structural investigations of impurities and defects in wide-gap II-VI compounds*

It was agreed that the collaboration has put together the necessary techniques for a range of experiments on II-VI semiconductors, and is producing ample results that are interesting both from the scientific and the applications points of view. The 12 additional shifts requested will therefore be scheduled. The present experimental programme should however be brought to an end with this extension, and (as already agreed in this committee) there should be careful consultation with other groups proposing similar experimental programmes with a view to a common approach before any further experiments on these lines are accepted.

P97: *Structure and kinetics of vacancies and self-interstitials in ferromagnetic Fe: An Approach using $^{57}\text{Mn} \rightarrow ^{57}\text{Fe}$ Moessbauer spectroscopy*

It was agreed that the proposed techniques should be able to address several problems concerning point defects in metals that have been in need of answers for many years. There are clearly difficulties and uncertainties involved which the group is encouraged to try to solve in a 6 shift allocation for part a) of the proposal ("Temperature dependent study of the annealing kinetics in the damage cascades"). Any future allocation will be determined on the basis of a status report and will require Research Board approval.

OTHER BUSINESS

G. Sletten pointed out that the Euroball experimental programme in Strasbourg is presently stalled. Under these circumstances, ISOLDE community groups might wish to think about performing experiments with ISOLDE sources in the Euroball.

The next meeting will take place on **4 May, 1998**. The dates of the remaining ISC meetings in 1998 are:

September 28 - 29

November 30 - December 1

J. Eades