

2nd TARI FP6 USP Meeting
Frascati, 4 March 2005

Minutes

Present:

D.J.Miller (Chairman)
J.P.Egger, C.Guaraldo, C.Natoli, M.Calvetti, G.Cinque, D.Ferrucci, G.Mazzitelli (Item 5, Test Beam Proposals 20, 21 and 25)

Apologies:

W.Peatman, M.Curatolo, M.C.D'Amato and C.Conti

1. Welcome to new members

C. Natoli and M. Calvetti

The chairman asked for his thanks to be sent to Prof. Emilio Burattini for his great contributions to two Tari panels.

2. Status and plans for facilities at LNF

Mario Calvetti reported.

The time has come to give more importance to the use of Synchrotron radiation. The Laboratory will give dedicated beam time, when justified. Responsibilities have been given to younger physicists to organize the programme.

- Claudio Marcelli – IR line for next three years
- Antonella Balerna – X-Rays; working with Gianfelice Cinque.

They have been given budgets and asked to present plans. Scientific committees have been appointed to scrutinise proposals. Dedicated beam time may be allocated when justified (~7 days already requested). A growing Synchrotron radiation programme will enlarge the culture of the Laboratory. Users will need to be able to rely upon the beam time they have been promised.

The panel welcomes this development. J.P.Egger stressed that well qualified users must be available.

This year's priority is to complete the KLOE Programme giving an extra 1.5 fb^{-1} . Then Kloe comes out and Finuda goes in. Finuda will not need so much luminosity as Kloe so there could be more time for test beam and Synchrotron running. Finuda and Siddharta will continue until the end of 2007. After that an upgrade for Dafne is one of the possibilities.

A small storage ring called SPARC is under construction. Details will be shown to the Panel at the next meeting. It will use a free electron laser to generate 60 -1000 eV photons. In the shorter term a beam line of this energy might be produced from Dafne, for test purposes, using a bending magnet.

There was some discussion of how the Laboratory could continue to provide low costs accommodation for visiting scientists. The panel felt that it was important to do this in order to get the best possible value from the Tari funds.

Carlo Guaraldo reported that Siddharta is in good shape. An update plan has been presented and the manufacture of equipment is well advanced. The April collaboration meeting will decide the final layout. The experiment will be ready to be integrated in the 2nd half of 2006. There may be data from a few chips in mid 2005.

3. Report on the TARI 2 Programme so far

Carlo Guaraldo said that, because of the late start to the Programme the last call had an unusually large response, so a significant amount of time had been allocated. He was happy to report that many of the proposals had used a large fraction of this time. Drawing attention to the table of time used which had been circulated, he pointed out that groups were already committed to further trips in March which would take them even closer to their allocations. Nevertheless a few teams are bidding for more time in this round, despite not having exhausted their allocation.

The Synchrotron Radiation facilities are being made more stable. Extra staff have been requested to allow more automatic operation. Synchrotron beams are not yet running for 24 hour days. A review of the IR line is being started.

4. Possible bid to 2nd call

Carlo Guaraldo suggested that a bid to support the high field magnet Programme was probably not appropriate at this time.

5. Evaluation of new proposals

DAFNE LIGHT

Calogero Natoli had circulated the comments of the review committee on the 4 bids. He handed out a summary sheet of their recommendations. Only N. 24 is really a new proposal.

Proposal N. 22 (Title: Far Infrared Reflection-Absorption spectra of solid solutions thin films with polarized light. Acronym: THINFILM)

This is the continuation of a previously approved Project. The review Committee gave 4/5 for Scientific interest and 4/5 for feasibility. The panel accepted the recommendation of 40 days and 4 trips with 10 days in Beam (not dedicated).

Proposal N. 23 (Title: Confined and Interface Optical Phonon Modes in GaAs/AlGaAs and CdTe/CdMgTe superlattices. Acronym: SUPERLATTICEPHONON)

The review Committee's referee reported that the proposed method was impossible in principle since it required a beam with 100 μ m wavelength to interact with 0.3 μ m layer. They suggest no more time be allocated.

The panel was concerned that such an apparently naïve point had come up. Such issues would be best dealt with in an open presentation before experts. Could a small part of Tari funding be used to finance such a forum?

Proposal N.24 (Title: Synchrotron IR study of protein-water systems with reverse micelles. Acronym:.....)

The review Committee liked the proposal and gave it 4/5 for Scientific interest and 5/5 for feasibility. Carlo Guaraldo raise the question of its eligibility for Tari support since the team of 7 includes 4 Italians, 3 of them at an Italian University. The Panel would like to support this work but Carlo Guaraldo was asked to investigate whether changes need to be made so that it complies with the rules. Provisional allocation 70 days and 7 trips, 14 beam days (not dedicated)*.

Proposal N.29 (Title: Biological Tissues analyzed by XANES and IR. Acronym: BioXanesInfrared)

The review panel felt that this was interesting and appropriate, but did not deserve the 150 days requested. They gave it 3/5 for Scientific interest, 5/5 for feasibility. The TARI Panel recommended 50 days and 5 trips, 7 days IR +7 days X-Ray (not dedicated).

BTF

Proposal N.20 (Title: Bent Crystal Extraction. Acronym: BENCE)

The panel noted that this team has made numerous bids to the Programme (Projects N.4, 5, 6, 7, 20 and 21). They are clearly a world leading group and Channelling Phenomena have significant potential. Nevertheless none of the Panel has direct expertise in this field. Before approving further extensive running they would like to ask LNF to obtain an independent referee's report on both the current and proposed projects from this group.

Giovanni Mazzitelli suggested that the team was asking for more days that will be available for test beam work. The panel recommended 100 days and 7 trips.

Proposal N.21 (Title: Periodic Atomic Structures for sources of coherent Radiation Acronym: PASSRA)

In the light of the point made concerning the need for this programme to be independently refereed, the panel did not allocate any time to this second proposal from the group. They would be willing to reconsider this, and other Nanotube-based Projects after the referee has reported, hopefully by the next meeting.

* Afterwards, the eligibility of this proposal was verified and the allocation was confirmed.

Proposal N.25 (Title: Ultra-cryogenic measurement of thermo acoustic effect in aluminium bar. Acronym: RAP)

Giovanni Mazzitelli declared an interest as a member of the RAP experiment. He explained the basis of the measurements to be made, which should check the source of anomalously large acoustic signals from cosmic rays in the Sinbad gravitational wave detector. The panel was unhappy with the very brief description of the science in the proposal *THEY ASKED LNF TO MODIFY POINT 10 ON THE APPLICATION FORM TO ASK FOR "BETWEEN 2 AND 3 PAGES" OF DESCRIPTION*. The Panel's recommendation is to give 42 days and 4 trips as requested.

Hadron Physics

Proposal N.27 (Title: KLOE Physics, hadronic cross sections. Acronym: Kloe)

The Panel was impressed by the quality of the results presented. Systematic errors will become dominant by the time the Kloe programme is completed, so this team's contribution will be vital. The recommendation is slightly lower than the bid: 278 days and 17 trips (slight reduction for the experimenters, none for the theorists).

Proposal N.26 (Title: Realization of the prototypes for the SIDDHARTA Silicon Drift Detectors Bias Controller and SIDDHARTA Kaon trigger detector. Acronym: BICOKADE)

J.P. Egger pointed out that the Siddharta experiment on rare atoms is a combination of atomic, nuclear and particle physics which provides a very good training for young scientists. The silicon drift technique should overcome the background problems of DEAR.

The Panel noted that the group on this proposal has fewer resources than that making proposal N.28, so they recommended no reduction from the original bid of 314 days and 10 trips.

Proposal N.28 (Title: Setup development for exotic atom research at DAFNE. Acronym: SMI-EXA)

The same general remarks apply as for proposal N.26. The Panel recommended a slightly reduced allocation of 170 days and 10 trips.

6. Summary of recommendations

The programme contains 8000 days in 4 years. Carlo Guaraldo pointed out that this implies approximately 1000 days per call. For the first call we allocated 1611 and 89 trips. This meeting has allocated 1064 days and 64 trips, which looks appropriate.

7. Date of next meeting

Possibly 21 or 22 September following the invitation to bid by 1 September. This will give time for Dafne-Light Committee to make judgements which can be sent to the panel a week before the meeting.