

India in ILC-detector R&D in 2007-10

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(on behalf of TIFR group)

Indian funding cycle

- Funding for major projects takes place in 5-year plans, the next one starting from 1st April 2007
- For this (11th) plan some funds have been requested for the R&D phase of ILC detector related and other activities

Detector related R&D's

- Proposed participation in the scintillator based calorimeter R&D now underway in collaboration with Prof Tohru Takeshita. We understand that the next beam test is scheduled for March 07 and plans for that are already finalized. So, we will participate in the next phase for which the beam test would come around end-2007.

We intend to participate in hardware fabrication, in simulation studies and in actual data taking and analyses of the test beam data. Experience in fabricating large area plastic scintillator detectors exists in TIFR. Such detectors were made here for the DZERO and CMS experiments, including precision machining and grooving of scintillator tiles, assembly into detector modules, carrying out cosmic muon tests, and tests with moving radio-active sources.

Plastic scintillator ...

We would need to get Si-PM's from Hamamatsu for the cosmic muon tests.

In the area of Geant4 simulation also expertise exists in the TIFR group.

So, in this area we are in touch with Prof Takeshita and will start work as agreed upon in the collaboration. Funding should become available from mid-2007.

Detector related R&D's - 2

- Within the Department of HEP at TIFR some generic R&D is also proposed to be carried out on Si-PM's and also to explore the possibility of Si-PM manufacture at an Indian silicon foundry.

(Profs S.R. Dugad and Sudeshna Banerjee)

- Additionally, Si microstrip detectors are being pursued in the context of BELLE. Some successful prototypes of single sided detectors have been made, and now one is pursuing double sided detectors at BEL, Bangalore

(Prof T. Aziz)

Detector related R&D's - 3

- A group at TIFR is also pursuing R&D into glass RPC's in the context of a proposed India-based Neutrino Observatory
(Prof N.K. Mondal)

To summarize, a fair amount of detector R&D activity is ongoing or will start soon.

Joining the ILC-specific scintillator calorimeter collaboration is our immediate goal.

Other ILC related funding

- In order to support the various other ILC related activities in India, like visits of persons to labs, for attending meetings, workshops, etc, both within India and abroad, another budget has been requested which will cover all Indian institutions.
- This budget, if approved, will also become operational in the 11th plan (April 2007)