Thoughts on SMTF: Cavity and Cryomodule Fabrication

Shekhar Mishra

Fermilab

Cavity Fabrication and R&D

- The ILC-America goal is to produce 35 MV/m 1.3 GHz cavities in the US with industrial collaboration.
- Initially the US production may not reach this level and we need to learn with experience and iterate on procedure.
- A total of 12 cavities will go through a production process during FY05.
- 1.3 GHz Cavity fabrication would be done by Jlab in collaboration with Cornell. Initially AES will be the industry that will produce these cavities using the US laboratories infrastructure.
- Jlab would perform BCP and “electro-polishing” on these cavities and iterate on the cavity production procedure in collaboration with Cornell.
- Jlab would perform vertical test on these cavities and ship it to Fermilab.

Horizontal cavity and Coupler Test Stands

- Fermilab in collaboration with TESLA Collaboration would build one horizontal test stand similar in design to the test stand "Chechia", only for pulsed cavity tests, but in a linac comparable test environment (without beam).
- Fermilab would install this test stand at Meson East for horizontal test of all the cavities similar in design and size to ILC cavity.
- SLAC would build one coupler test stand, similar to build and used by ORSAY, where one or two main-power coupler can be processed and tested at once.
- SLAC will ship these cavities to Fermilab after testing for installation.