

WG-5 Summary

- Two parts to work on classifications
 - Cavity, couplers...strings
 - Cryomodule, Cryoplant (Tom Peterson)
- KEK Charge: who would like to do what
- Industrialization - first thoughts

WG-5: Cavity Sub-Group

- Started with excellent presentations from Charlie Reece and Ricky Campisi on cavity and coupler issues and their tight interconnectedness
- We adopted an open attitude to discuss many aspects of cavity strings, and discuss new ideas “in the air”. Fortunately, time was short !
- Nevertheless, we tried to appreciate the long process that the TESLA collaboration had gone through in optimizing the design, considering alternatives, going through several iterations to reach a certain level.
- We assessed the level of impact of “changes” worth considering, along with the level of effort and time it would take to reach a comparable level of acceptance of the point design.
- We discussed a certain minimum level that alternative approaches would have to pass. For example: demonstrate 35 MV/m in a fully equipped multi-cell cavity test with full power, etc.
- We found some ambiguity in what KEK-2 means. So we expanded the interpretation.

Spreadsheet Comments

- We had participation of several experts on cavities, couplers, cryomodules, refrigeration
- It was possible to make a preliminary judgement on the level of difficulty and time required
- But overall group working time was short
- Assessments deserve more iterations..as planned

Charge “Present the topics the different groups are interested in, and can contribute to the overall design.”

Many Labs have both interest and the ability to contribute over broad areas of design in WG5

Cornell Univ, Jlab, LANL, FNAL, (lesser extent) SNS, SLAC
(The SMTF collaboration)

- Cavity
 - Design, Build, tune
- Cavity dressed-develop, test
 - Tuner
 - Input coup, fab, prep test
- String assembly
- Module - mech
- Module - cryo
- Cryoplant
- Industrialization
- Prep of cavities
- Testing of cavities
- Testing of modules

Industrialization

- We all recognize that it is urgent to get going on industrial partnership & tech transfer
- In particular - How does the cavity module engineering design and processing evolve toward industrial design & procedure
- Presentations- Funk, Mammosser, (earlier slides from AES-Favali) Participation by McGill- General Atomic.
- Action item: A well planned workshop on how to proceed on industrialization program would be of great value

Example thoughts: Industrialization

Questions cont.

J Mammosser

- The National Lab's role is to transfer technology to industry
 - Transfer process knowledge, not define how to do it
 - Need to form an industrialization team with members from all regions to:
 - Defined a list of the process steps as we know it today
 - Collect knowledge on the active state of the surface throughout the critical process steps
 - Develop a well defined parameter list of the performance requirements
 - Start an industrial forum to open up discussion, court appropriate industry and start the educating process
 - What problems if any need addressing to get industrial effort started?

One US Industry example thoughts on INDUSTRIAL PARTICIPATION

Favali

SUMMARY

- DETERMINE WHICH COMPANIES ARE INTERESTED
- INVOLVE THEM EARLY IN A FUNDED TECH TRANSFER PROGRAM
- FUND THEM TO DEVELOP MANUFACTURING PLANNING AND TO CONDUCT R & D TO DEVISE MANUFACTURING TECHNIQUES REQUIRED FOR HIGH RATE PRODUCTION