



Workshop on
Accelerator Magnet Superconductors

Conclusions

Concluding remarks- a

- The workshop has reached the goal to put together **102 PARTICIPANTS**
 - material scientists, magnet designers, accelerator experts, companies
 - Accelerators, fusion, power
 - LTS and HTS material and cables
- The key issue for our program is **financial support**
 - For R&D, both for material, conductors and significant test (shorten time lag : material to cable in winding)

Concluding remarks- b

- **Nb₃Sn is the viable material to built -today- an accelerator magnet for 15 T**
 - Has still room for improvements
 - The main drive today is the winding technique and conductor cost reduction (share lab - industry)
- **NbTiTa not too much positive!**
 - Need to do a dedicated (special funding) program? Worth?
 - Good only at 1.8 K (and doubt on this)
- **Nb₃Al promising but suffering spectacular increase of J_c of NbSn in 10-16 T**
 - More for large production - VHF dipoles (LHC2)

Concluding remarks- c

- **Bi-based : it is becoming a viable conductor**
 - J_e better than Nb_3Sn in Europe! But reliability highly packet (90%) 20 KA conductor must be proved
 - Transmission cable are coming to reality
 - Cost of Bi tapes???
- **Coated conductors**
 - Material Performance have been shown in long length!
 - Some focus at low temperature!
 - Long route to become real conductors : idea are there but need to be proved
 - Eucleate the key feature we need for accelerator magnets and watch results

Concluding remarks- d

- **MgB2**
 - It is certainly a competitors for single magnets
 - Good also for low cost low field injector chain magnets: competition with Dubna and BNL pulsed magnet for GSI
 - for large accelerators: good perspective for ancillaris
- **New materials requires**
 - Suitable magnet design
 - Suitable cable design
 - Suitable insulation
- **Next workshop of the CARE-HEHI HB-AMT working package MARCH 06 (05??)**

MAGNET DESIGN ISSUES

- HFM and pulsed LFM-

