

Session 7 Notes Materials, Forming and Welding:

Materials

- Can the Niobium specification/standard be adjusted to reflect fabrication requirements
 - RRR
 - Grain size
 - Perfect grain size
 - Tantalum
 - Yield
 - Etc.
- Cryogenic testing of materials
 - Nb micro structure/dislocation behavior at low temperatures

Forming

- Improvements to the standard process
 - Tool design
 - Heat treatment after forming
 - Advanced designs
 - Hydro forming
 - Chipless forming
 - Etc.
- Pit investigation
 - Why is the pit a problem? (is there a underlying problem)
 - Re-create pits for testing
 - Nb Dislocations and correlation to cavity defects by contamination of Nb
 - Etc.

EBW

- Welding strategies
 - Dumbbell
 - Smartbell
- Welding fixtures and repeatability