

Role of Universities

- Support program goals: long lengths with good properties
- Apply to ongoing efforts at labs and in industry
- Provide new ideas and alternate directions

Role of Universities

- Larbalestier/UW
 - Capability: wide range of film growth tools, characterization, and theoretical support
 - Studies of J_c vs. thickness, both materials and physics issues
 - Model film growth systems using high pressure RHEED
 - Implementation of aerosol spray pyrolysis for entire stack
- Hammond/Stanford
 - Understand high rate in situ growth processes
 - YBCO phase stability (role of liquid phases)
 - Issues: confirm high J_c with high rate, thickness dependence, extend to metal tapes
 - Sensors for process control

Role of Universities

- Cima/MIT
 - Problems: low growth rate of c-axis oriented, J_c decrease with film thickness,
 - For TFA precursors, rapid thermal anneal can achieve conversion rates greater than 6 nm/sec on RABiTS under low pressure
 - F/Ba ratio may play central role
- Thompson/UT
 - Basic ferromagnetic properties of Ni based alloys
 - Dependence of Curie T_c and M_{sat} on alloying
 - Focus on hysteretic losses both in substrate and HTSC, these scale very differently with current

Role of Universities

- Haldar/U. Albany
 - Capabilities of Albany NanoTech:
 - 300 mm wafer prototyping in fall '03
 - Advanced characterization tools including FIB, RBS
 - Modeling and processing tools for a wide range of deposition techniques
- Schwartz & Iwasa/Florida State & MIT
 - Understand normal zone creation/propagation
 - Can now measure quench energies and propagation velocities
 - Find NZPV is slow at 81K