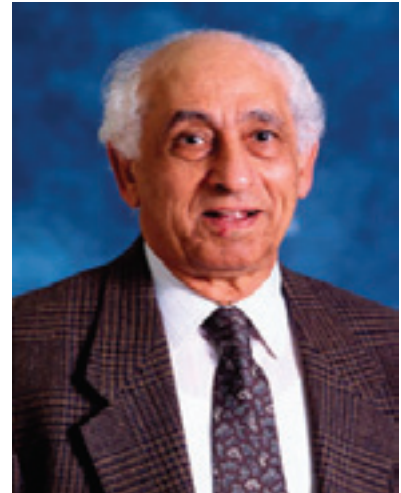


T_CSUH Bi-Weekly Seminar

Texas Center for Superconductivity at the University of Houston

Prof. Kamel Salama

Department of Mechanical Engineering
University of Houston
Project Leader, T_CSUH



“MOD Development of Coated Conductors at T_CSUH”

Friday, November 4, 2005

Room 102, University of Houston Science Center
1:00 p.m. – 2:00 p.m.

Abstract

Currently, first-generation high temperature superconducting (HTS) wires/tapes are commercially available for practical applications. Higher generation HTS wires/tapes (coated conductors) exhibit the capability of carrying higher current at higher temperatures and stronger magnetic fields. Development of higher generation will accelerate the applications of HTS products into the marketplace. Our research on YBCO coated conductors at T_CSUH include results on textured metal-organic deposition (MOD) buffer layers and YBCO films. The sharpest cube textured YBCO on magnetic Ni-9at%W alloy substrates were successfully achieved for the first time using a metallurgy process and give promise for coated conductors with reduced AC losses. MOD buffer layers have been developed to simplify coated conductor architectures, improve their cost/performance ratio. In addition, chemically doped MOD YBCO films with enhanced critical current density (J_c) were developed and J_c exceeding 5 MA/cm² at 77 K was obtained. We will present results of electric-mechanical properties of SuperPower IBAD coated conductors as part of the collaboration between T_CSUH and SuperPower.

Persons with disabilities who require special accommodations in attending this lecture should call (713) 743-8210 as soon as possible.



TEXAS CENTER FOR
SUPERCONDUCTIVITY

Rescheduled for December 2, 2005