

Wire Bonding onto Niobium for Superconducting Applications

Speaker: Dr. Michael Hamilton - Auburn University, Auburn, AL;

& Mike McKeown - Hesse Mechatronics, Inc., Mineola, NY

E-Mail: mch0021@auburn.edu

Abstract

Niobium is a relatively new metal utilized in wire bonding applications. This presentation will review the challenges of wire bonding onto such a metal as well as the process issues. Wire bonding onto a Nb metallization has its own set of characteristics as it is unlike the structure of Al. In-depth review of visual, wire pull and bond shear testing of 10 mil 99.99% Al wire will be discussed for Nb surfaces as well as to Nb that had Al and Au top metallizations. Reliability testing was not yet completed but will be addressed.