

Abstract Submitted  
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CONTACT BETWEEN INDIUM ALLOYS AND HIGH  $T_c$  SUPERCONDUCTORS. A. Kaplan, M.Z. Tahar, and G.O. Zimmerman, Physics Department, Boston University.- - We have measured the resistance of contacts between indium alloys, with low melting point, and high temperature superconductors using the four-plus-two-point method. The excitation current ranged from  $50\mu A$  to  $20mA$ , and was swept in a logarithmic and/or linear manner. The measurements were carried out at room, nitrogen, and helium temperatures. The I-V plots show a slight positive curvature that depends on the alloy and is enhanced as the temperature is lowered to  $77K$  and to  $4.2K$ . In some cases, at  $4.2K$ , both the alloy and the high  $T_c$  material were superconducting. For the runs where the current is varied in regular steps the  $\frac{dI}{dV}$  characteristics were also studied. Both the the I-V and the  $\frac{dI}{dV}$  vs. I will be presented along with a model of the contact between the alloys and the high  $T_c$  superconducting materials.

George O. Zimmerman  
Boston University Physics Department  
590 commonwealth avenue  
Boston, Massachussetts 02215