E1-07

EFFECT OF Sn AND IN ADDITION ON THE SUPERCONDUCTIVITY OF (Bi-Pb-Sb)$Sr_2Ca_2Cu_3O_y$

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Superconducting samples of nominal composition $(Bi_{1.5}Pb_{0.4}Sb_{0.1})Sr_2Ca_2Cu_3O_y$, $(Bi_{1.5}Pb_{0.3}Sn_{0.1}Sb_{0.1})Sr_2Ca_2Cu_3O_y$ and $(Bi_{1.5}Pb_{0.3}In_{0.1}Sb_{0.1})Sr_2Ca_2Cu_3O_y$ were prepared by solid state reaction of appropriate quantities of salts with purity 99%. Resistivity of the samples were measured down to 20K using the four probe technique with pressed indium contacts. The resistivity curves and the power X-ray diffraction patterns of the samples show that the fraction of the high temperature (110K) phase in the material has increased due to the addition of Sn and In. However, the zero resistivity transition temperature was found to be 80 K for all three samples studied.

References:

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