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# Superconducting Properties of $B_2O_3$-Added (Bi,Pb)-2223 HTSs Prepared on Alumina Plates

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## Abstract

Nominally pure and $B_2O_3$-added (Bi,Pb)-2223 HTS samples were synthesized in air on alumina plates. The influence of boron-doping as well as annealing conditions on the high-$T_c$ 2223 phase evolution was studied using X-ray diffraction (XRD), resistivity and AC susceptibility measurements. The $B_2O_3$-added samples with starting composition $Bi_{1.7}Pb_{0.3}Ca_2Sr_2Cu_3B_xO_y$ ($x$=0.05 and 0.5) reveal significant enhancement of 2223 phase formation compared to the undoped sample. Higher-level boron doping $x$=1.5 leads to the degradation of high-$T_c$ 2223 phase.

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