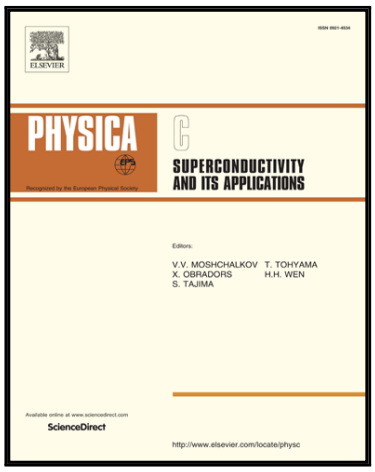

INFLUENCE OF B_4C-DOPING AND HIGH-ENERGY BALL MILLING ON PHASE FORMATION AND CRITICAL CURRENT DENSITY OF (Bi,Pb)-2223 HTS

N.G. Margiani , G.A. Mumladze , Z.A. Adamia , A.S. Kuzanyan , V.V. Zhghamadze

PII: S0921-4534(17)30298-8
DOI: 10.1016/j.physc.2018.02.025
Reference: PHYSC 1253282

To appear in: *Physica C: Superconductivity and its applications*

Received date: 15 July 2017
Accepted date: 28 February 2018

Please cite this article as: N.G. Margiani , G.A. Mumladze , Z.A. Adamia , A.S. Kuzanyan , V.V. Zhghamadze , INFLUENCE OF B_4C-DOPING AND HIGH-ENERGY BALL MILLING ON PHASE FORMATION AND CRITICAL CURRENT DENSITY OF (Bi,Pb)-2223 HTS, *Physica C: Superconductivity and its applications* (2018), doi: 10.1016/j.physc.2018.02.025

Highlights

- The effects of the B_4C addition and dry planetary ball milling on the phase formation, microstructure and transport properties of $Bi_{1.7}Pb_{0.3}Sr_2Ca_2Cu_3O_y$ HTS have been investigated.
- The results obtained suggest that the boron carbide has to be considered as a promising dopant for enhancing the formation kinetics and *current-carrying capability* of (Bi,Pb)-2223 phase.
- It has been shown that the J_c values of B_4C-added (Bi,Pb)-2223 HTS can be further increased by using a planetary ball milling treatment of precursor powders.