Strategic flat rolling of Ag/BSCCO-2223 tapes

In the process of single-step flat rolling of multifilament Ag/BSCCO-2223 wire to tape previous work has shown the optimum strategy giving maximum critical current density to be it balance between the length and width strain, so they are of equal size i.e. so, that the logarithmic strain ratio, LSR, reaches zero. In order to investigate the possible improvements by using multistep flat rolling, a new strategy to control the LSR in each individual step, i.e. to control the differential logarithmic strain ratio DLSR, has been investigated. The present paper shows that appropriate choice of the processing conditions may be used to reach DLSR = 0 in each step, and suggests dimensionless parameters applicable to transfer the results to other wire dimensions. The tapes produced engineering current densities of tip to 7.6 kA/cm(2) with an average of 7.2 kA/cm(2). (C) 2002 Elsevier Science B.V. All rights reserved.