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Effect of mechanical activation on the electrochemical behavior of superconducting powders $YBa_2Cu_3O_{6+\delta}$

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Abstract

The effect of mechanical treatment on electrochemical properties of superconducting powders $YBa_2Cu_3O_{6+\delta}$ has been studied by the method of cyclic voltammetry. It has been found that the mechanical treatment does not change the mechanism of electrochemical reactions in the yttrium-barium cuprate. The initial potential has been shown to be the informative electrochemical signal which is sensitive to the activation degree of the test powder. The correlation between the binding energy of oxygen ions in the base plane of $YBa_2Cu_3O_{6+\delta}$ lattice and the initial potential takes place.