

Effect of Mechanical Activation on the Structural of (Na_{0.5}Bi_{0.5})TiO₃ Ceramics

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Piezoelectric ceramics (Na_{0.5}Bi_{0.5})TiO₃ (NBT) have been synthesized by mechanical activation of mixed oxides BiO₂, Na₂CO₃ and TiO₂ for 1 hour at room temperature. Non-activated and activated NBT powders were characterized by using X-Ray diffraction (XRD), scanning electron microscopy (SEM) and differential thermal analysis (DTA). Also, the mechanical activation-derived NBT powders were uniaxially pressed and all pellets were sintered at 1000, 1100, 1200°C for 2 hour in air atmosphere. The microstructure and phase analysis of sintered pellets was investigated by using SEM and XRD.

Anahtar kelimeler: lead free piezoelectric ceramics, mechanical activation, sodium bismuth titanate.