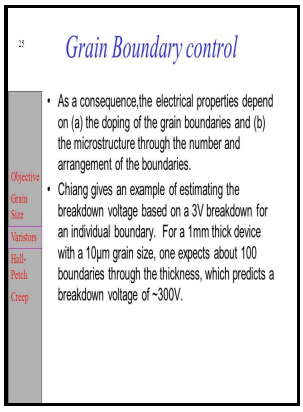
Semiconductor ceramics - grain boundary effects

Ellis Horwood - Colossal dielectric constant in PrFeO3 semiconductor ceramics



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Ellis Horwood series in physics and its applicationsSemiconductor ceramics - grain boundary effects
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Tags: #Microstructure #and #electrical #properties #of #ZnO

Impact of Fe substitution on electrical properties of ErCrO3 semiconductor perovskite ceramic nanoparticles

Relevant to restorative dentistry are the optical transparency, fracture toughness, low-temperature degradation of TZP ceramics, and dissolution of hydroxyapatite HAp and phosphate-based ceramics.

Grain Boundary

The leakage current decreases from 6μA to 4. Few samples have of the samples have exhibited signature of ferromagnetism at the room temperature.

The abnormal sensitivity and its mechanism of (Ba, Pb)TiO3 semiconductor ceramics

Modulus formalism has identified the effects of both grain and grain boundary microstructure on the dielectric properties, particularly in chemical routed samples. For example, a grain boundary in a rock may be either stronger or weaker than the grains themselves, depending on the formation of the rock, temperature, and so on.

[PDF] Nanostructured Tin Dioxide Materials for Gas Sensor Applications

The nonlinearity factor, α , threshold voltage, Vs, and leakage current If, are the most important parameters to be measured from the electrical characteristics of ZnO varistors. The grain boundary precipitates provide creep strength to the alloy and further contribute to creep strength by pinning grain boundaries so that the grain size is stabilised during high temperature exposure. On using the classical proceeding for fabricating the ceramic for Electronic, we have prepared different samples with different oxide additives such as Bi2O3, Nb2O5, MnO2, Co3O4, Cr2O3, NiO,Ce2O3, and La2O3.

Impact of Fe substitution on electrical properties of ErCrO3 semiconductor perovskite ceramic nanoparticles

In general, high-energy GBs of more disordered amorphous-like structure have higher and more isotropic diffusivity compared to the low-energy dislocation GBs with a pipeline diffusivity along the dislocation cores, or the low-energy special GBs 45 with almost crystalline structure and very low diffusivity.

Grain size effect on the dielectric and non

These metastabilities have been discussed in conjunction with metastabilities in the current-voltage characteristics, such as the increase in open-circuit voltage upon illumination with AM1. Simulated images are shown for c and d. These chemical components of eight lots of ZnO varistors are illustrated in table1.

Effect of Impurities and Temperature on Electrical Properties of ZnO

MRS Bulletin 46, 44—51 2021.

Microstructure and electrical properties of ZnO

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