



Porous Barium Titanate Ceramics

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Production and Electrical Characterization | Significant electrical resistance change due to gas and humidity absorption on metal oxide semiconductor surface has been known for long. Pure BaTiO₃, which is an insulator at room temperature, could be made semiconductor by incorporation of low amount of donor ion oxides. The aim of the present study is to fabricate BaTiO₃ with desired properties by investigating relationship between defect chemistry and characteristics. BaTiO₃ based bulk ceramics were produced enhancing the porosity percentage by addition of different amounts of graphite and PMMA powders into La⁺³ doped BaTiO₃ ceramics. For electrical conductivity measurements, to provide humidity environment, evaporation apparatus and gas-tight humidity chamber were used. By using apparatus, electrical resistance measurements under humid environment were carried out on samples with all compositions. For relative humidity percentages between 0-100%, for each humidity percentage an electrical resistance value was read. Special attention was paid for proton conductivity and applications for humidity sensing. | Format: Paperback | Language/Sprache: english | 116 pp.



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