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INFLUENCE OF POWDER SYNTHESIS ON $BaTiO_3$ ELECTRICAL PROPERTIES

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$BaTiO_3$ was prepared by two methodes. The first one was synthesis from polymeric precursors through Pechini process (soft chemistry) which was carried out as a three–stage process from oganometalic complex. The second one was a mechanochemical synthesis. A powder mixture of BaO and TiO_2 was treated in a planetary ball mill in an air atmosphere for up to 12 h, using zirconium oxide vial and zirconium oxide balls as the milling medium. Afther 60 minutes $BaTiO_3$ phase was formed. In both ways $BaTiO_3$ ceramics were sintered afther 120 min on 1300 °C without pre-calcination step. The heating rate was 10 °C/min.

The formation of phase and crystal structure of $BaTiO_3$ was approved by XRD analyisis. The morfology of obtained powders was exhamined by SEM method. The electrical properties of sintered samples were carried out.