

عنوان مقاله:

Effects of Firing Temperature on Crystallography of Rice-Husk-Ash-Silica Extracted

محل انتشار:

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خلاصه مقاله:

Piezoelectric materials based-silica are temperature-dependent, both during growth and fabrication and when they function. Electric and mechanical properties of silica can be changed during thermal treatment. Rice husk (RH), purchased from Babol's farm, is chemically and thermally treated in order to produce ash powder. Rice Husk Ash (RHA) contains over 80% silica [1], which can be changed into quartz as a piezoelectric material. In this study, rice husk ash is calcinated at two elevated temperatures: 500 °C and 700 °C, and the effects of temperature on the crystal structure of the RHA are investigated. XRD analysis is performed to characterize the phase changing in the rice husk ash upon to the temperature alteration. The results is shown that the RHA calcinated at 700 °C is contained higher percentage of SiO₂. Furthermore, displacements in the crystal phase can be observed due to the effect of temperature.

کلمات کلیدی:

Silica; Rice husk ash; X-ray diffraction; calcination

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