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The effects of different pyrolysis and annealing temperature on structural and resistivity of $K_{0.5}Na_{0.5}NbO_3$ thin film (Conference Paper)

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Abstract

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Potassium sodium niobate (KNN) thin film is a very promising candidate for piezoelectric applications such as for the usage in wireless sensor, actuator, and transducer. In this paper, a low-cost sol-gel spin coating technique was employed to fabricate KNN thin films on silicon (Si) substrate. The effect of pyrolysis and annealing temperature on the material properties of KNN thin films were investigated. X-ray diffraction (XRD), Raman spectroscopy and field emission scanning electron microscopy (FESEM) were used to examine the structural properties of the KNN thin films. The electrical properties of KNN thin films were characterized using resistivity testing. The experimental results reveal that high pyrolysis and annealing temperature greatly enhanced the structural and electrical properties of KNN thin films. © 2019 Author(s).

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