

عنوان مقاله:

The Effect of Samarium Weight Percentage on the Properties of PZT as Multilayer Capacitors

محل انتشار:

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خلاصه مقاله:

The present work includes manufacturing of samarium doped lead zirconatetitanate (52/48) thin film. Nano powder of Sm₂O₃ was used as dopant material at (0.5, 1 and 2) weightpercentage of the total weight. Radio frequency magnetron sputtering technique was used to deposit the thin films on nickel/copper foil substrate. To allow the crystallization into the perovskite phase the as deposited thin films were annealed at different temperatures (550, 600and 650°C). The produced thin films were characterized by X-Ray diffraction (XRD) and atomic force microscopy (AFM). LCR meter was used to determine the dielectric propertiesat different temperatures and frequencies (1, 10, 100 KHz). The dielectric constant of thefilms was in the range of 291-488 while that of loss tangent about 0.012-0.048. The dielectric constant and loss tangent decrease with increasing of samarium content

کلمات کلیدی:

samari um, sput t eri ng, di el ect ri c constant , temperature, f requency

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