

عنوان مقاله:

Preparation and characterization of Ag/Zr_{0.9}Ni_{0.1}O_y Nanocomposites as Metamaterials

محل انتشار:

سومین همایش ملی تکنولوژی های نوین در شیمی، پتروشیمی و نانو ایران (سال: 1395)

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خلاصه مقاله:

The paper focuses on the electrical, magnetical and morphology characterization of Ag/Zr_{0.9}Ni_{0.1}O_y (AZN_x) nanostructures with different atomic ratios x (where x is 0, 5, and 25%). The structure and morphology properties of the AZN_x nanostructures were evaluated by x-ray diffraction (XRD), scanning electron microscopy (SEM) techniques. Here, a negative permittivity behavior of AZN25% is found. Furthermore, the experimental data of the plasma-like negative permittivity are fitted well by a lossy Drude model, suggesting the plasma frequency of 6.78 GHz ($x = 25\%$). The complex permeability of AZN25% presents negative susceptibility ($\epsilon' < 1$). These results have important implications for the realization of double negative properties in single-phase LSMO as a promising candidate for the DNMs

کلمات کلیدی:

SNG, Tunable metamaterials, Ag/Zr_{0.9}Ni_{0.1}O_y nanostructures

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