

عنوان مقاله:

Conductive nanoparticles FTO ink: preparation and electrical properties investigation

محل انتشار:

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خلاصه مقاله:

This article presents novel attempt to synthesis of fluorine doped tin oxide (FTO) conductive ink from commercial FTO nanoparticles which have the particle size distribution about 30-160 nm. The conductive ink is achieved by dispersion of nanoparticle powders in DMF or DEG solvent which contains a tin (Sn) salt. The prepared conductive inks are deposited on the glass substrates by Dr.blade method. Different methods including SEM, XRD and 4-point probes are used for characterization of FTO films. The effect of different tin salts on conductivity such as SnCl_2 and SnCl_4 are studied. The final measurement of films conductivity shows the best conductivity in the presence of SnCl_2 salt. The effect of various additives such as HF and NH_4F on the conductivity of the final film are investigated, and the optimized FTO ink are prepared.

کلمات کلیدی:

Fluorine doped tin oxide (FTO), Conductive ink

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