

## عنوان مقاله:

An Investigation on the effect of substrate temperature on structural, electrical, thermoelectrical and optical properties of WO<sub>3</sub> thin films prepared by spray pyrolysis method

## محل انتشار:

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## خلاصه مقاله:

In this research work we deposited pure tungsten trioxide (WO<sub>3</sub>) thin film with various substrate temperatures (500, 400, 300 °C) on glass substrates by spray pyrolysis technique. The FESEM images show that as the growth temperature has decreased the surface of the layers became more porous with more intertwined circular strings. Also the XRD spectra of the layers indicated that all grown samples have an amorphous nature. The Seebeck effect and I-V characteristics of the layers showed while all layers have n-type conductivity, the layer with the lower growth temperature is more conductive than those grown at higher temperatures. These results are well-consistent with the optical properties of the films including transmittance spectra also the trend of the band gap variations.

## کلمات کلیدی:

WO<sub>3</sub>; nano-structured film; substrate temperature

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/398038>

