

Nanotechnology and Photovoltaics

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Abstract: Highly crystalline dispersive NiO nanocrystals have been synthesised with a diameter of 2.5 ± 0.5 nm. It is possible to synthesise nanocrystals without heating which has not been previously reported. Very large rod-shaped particles were selectively synthesised using increased reflux time and reactant concentration, which can be separated from the smaller particles using filtration or sedimentation. Permittivity and conductivity measurements of nanocrystal solutions provide evidence of rotational and translational degrees of freedom.

Keywords - Metal-oxide Nanocrystals; TEM image of NiO rods; anodisation; electropolishing

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