On physical properties of undoped and Al and In doped zinc oxide films deposited on PET substrates by reactive pulsed laser deposition

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Résumé en anglais	Undoped and Al and In doped ZnO films were deposited on flexible PET substrates by Reactive Pulsed Laser Deposition (R-PLD). The morphological and structural characteristics of the obtained structures were investigated by AFM, SEM and XRD respectively. The transmittance spectra were recorded in the 300–1200 nm wavelength range and the electrical conductivity was measured. The samples appeared as granular and polycrystalline with high transparency and had a good electrical conductivity. The crystallinity of the undoped ZnO films improved with increasing pressure of the reactive oxygen gas. Doping of ZnO with Al or In modified the energy band gap and the resistivity of the material. The possibility for the application of such structures for the development of hybrid photovoltaic cells on flexible substrates will be demonstrated.
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