Title:	Impact of chloride treatment on the physical properties of polycrystalline thin CdTe films for solar cell applications
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Abstract:	This report presents the microstructural, optoelectrical and surface morphological properties of e-beam evaporated thin CdTe films with the activation of post-chloride treatment. The thin films having thickness 800 nm were deposited onto glass and ITO substrates subsequently processed with CdCl2 treatment at various temperatures and then subjected to different characterization tools to investigate the physical properties. The films were found to be polycrystalline in nature having a cubic phase with preferred orientation (111) up to 320 °C and completely oxidized at 470 °C while the ohmic nature of films is confirmed by I–V characteristics. The absorbance is found to be higher in the visible range and lowest transmittance is observed for film processed at 170 °C. The surface morphology reveals that films have uniform surface with improved grain growth and elemental analysis confirms the deposition and treatment. The optimized results attract attention to use the processed films at 170 °C as an effective absorber-layer in CdTe based solar cells.
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