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Title:	Bi-incorporated CdTe thin films for solar cells: Air annealing evolution to structural, optical, electrical and surface topographical properties
Authors:	Chander, S. (/jspui/browse?type=author&value=Chander%2C+S.)
Keywords:	Thin CdTe films Bi-doping Air-annealing Absorber-layer Solar cell
Issue Date:	2019
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Citation:	Materials Letters, 249, pp. 29-32.
Abstract:	Highly efficient CdTe absorber-based solar cells often require Cu-doping for lower resistivity and a suitable ohmic contact, but Cu migration degrades the performance and creates instability of device. Therefore to address these problems, there is a need to optimize CdTe single layer itself with another suitable doping element, so in this report, we have optimized the physical properties of Bi-doped CdTe thin films where the films were air annealed at the different temperatures. Structural analysis revealed the polycrystalline nature with (1 1 1) preferred reflection and maximum grain growth for films annealed at 300 °C as well as high optical absorbance and maximum conductivity are also observed for these films. The investigated findings show that films annealed at 300 °C have favorable properties and may be utilized in the fabrication of highly efficient solar cells.
Description:	Only IISERM authors are available in the record.
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