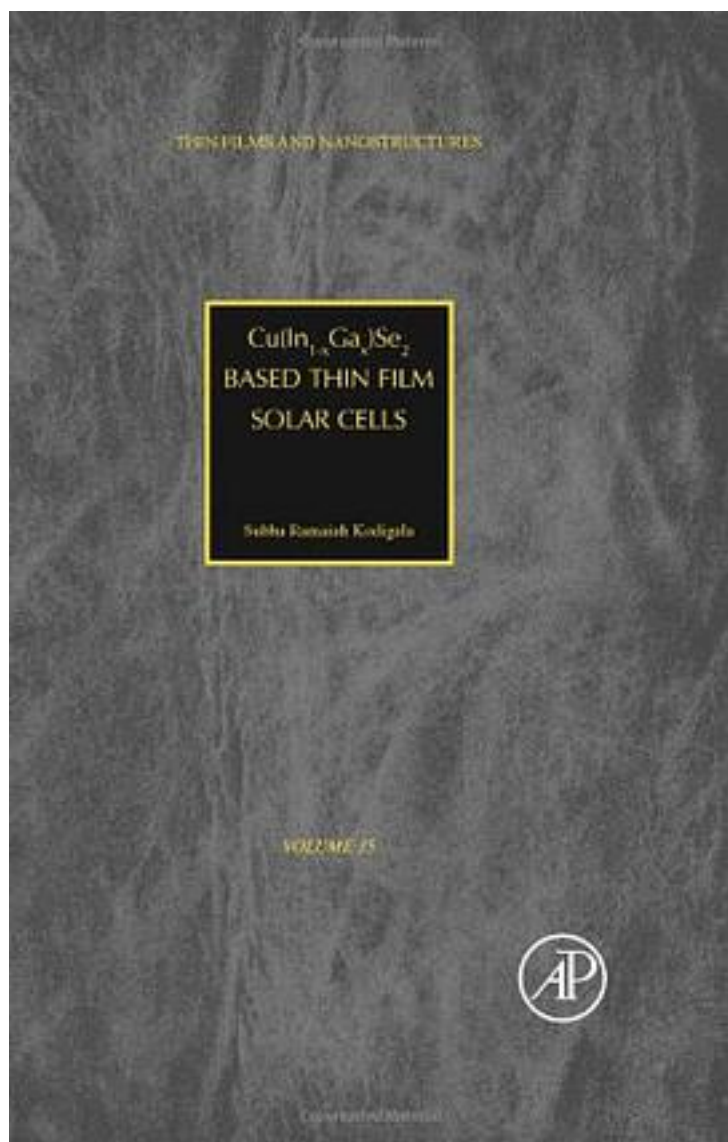


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This book provides valuable content, particularly on the fabrication of chalcopyrite based thin film solar cells. The characterization of the layers in the solar cells, mainly absorbers (CuInGaSe_2), buffers, window layers, antireflection coatings, finally metallic grids on top of the solar cell is obviously very important. When fabricating this kind of thin film solar cells, what are the problems arisen, how these can be encountered using characterization tools, more importantly, the XPS, XRD, AES, SEM, Raman, Photoluminescence, Electrical measurements etc. The absorber, which contains multiple elements always gives segregation of secondary phase, if the growth conditions are not appropriate that is the main drawback to grow thin film layers. This kind of problems and solutions are given in detail in the book. In first place, the electrical conversion of the CuInGaSe_2 thin film solar cell is illustrated with basic sciences. What are the important criteria to enhance the efficiency of the solar cells, modules and their functions with environmental factors such as temperature, aging etc., are illustrated with several examples.

- Illustrates a number of growth techniques to prepare thin film layers for solar cells
- Discusses characterization techniques such as XRD, TEM, XPS, AFM, SEM, PL, CL, Optical measurements, and Electrical measurements
- Includes I-V, C-V measurements illustrations
- Provides analysis of solar cell efficiency
- Presents current trends in thin film solar cells research and marketing

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