

Fabrication of Silicon Solar Cells Using All Sputtering Process

Authors : Ching-Hua Li, Sheng-Hui Chen

Abstract : Sputtering is a popular technique with many advantages for thin film deposition. To fabricate a hydrogenated silicon thin film using sputtering process for solar cell applications, the ion bombardment during sputtering will generate microstructures (voids and columnar structures) to form silicon dihydride bodings as defects. The properties of heterojunction silicon solar cells were studied by using boron grains and silicon-boron targets. Finally, an 11.7% efficiency of solar cell was achieved by using all sputtering process.

Keywords : solar cell, sputtering process, pvd, alloy target

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