

## I-V CHARACTERISTICS OF CDTE/PTNPS/AL<sub>2</sub>O<sub>3</sub>/PTNPS/SI THIN FILM SOLAR CELL

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### ABSTRACT

The CdTe/PtNPs/Al<sub>2</sub>O<sub>3</sub>/PtNPs/Si solar cells have been fabricated on p-Si wafer by thermal evaporation, ALD, and sputtering methods at different thicknesses (time intervals) of Pt Nano Particles (0.5, 0.761, 0.926, and 1.56nm). In this work, the effect of the ultrathin PtNPs layer was studied. The I-V characteristics are studied and interpreted. Gold and indium tin oxide (ITO) are used as back and front contacts, respectively. It was found that the efficiency and filling factor have maximum values at thickness of 0.761nm.

**KEYWORDS:** Solar Cell, Al<sub>2</sub>O<sub>3</sub>, PtNPs, Efficiency, Fill Factor



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