Title (en)

PREPARATION OF COPPER-INDIUM-GALLIUM-DISELENIDE PRECURSOR FILMS BY ELECTRODEPOSITION FOR FABRICATING HIGH EFFICIENCY SOLAR CELLS

Title (de)

HERSTELLUNG VON KUPFER-INDIUM-DISELENIDE-AUSGANGSFOLIEN MITTELS ELEKTROBESCHICHTUNG ZUR HERSTELLUNG HOCHEFFIZIENTER SOLARZELLEN

Title (fr)

PREPARATION DE COUCHES D'UN PRECURSEUR CONSTITUE DE DISELENIURE DE CUIVRE-INDIUM-GALLIUM PAR ELECTRODEPOSITION POUR FABRIQUER DES PHOTOPILES A HAUT RENDEMENT

Publication

EP 0977911 A1 20000209 (EN)

Application

EP 98913276 A 19980330

Priority

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- US 4450697 P 19970421
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Abstract (en)

[origin: WO9848079A1] A photovoltaic cell (10) exhibiting an overall conversion efficiency of 13.6 % is prepared from a copper-indium-gallium-diselenide precursor film (18). The film (18) is fabricated by first simultaneously electrodepositing copper, indium, gallium and selenium onto a glass/molybdenum substrate (12/14). The electrodeposition voltage is a high frequency AC voltage superimposed upon a DC voltage to improve the morphology and growth rate of the film (18). The electrodeposition is followed by physical vapor deposition to adjust the final stoichiometry of the thin film (18) to approximately Cu(In1-x,Gax)Se2, with the ratio of Ga/(In+Ga) being approximately 0.39.

IPC 1-7

C23C 28/02; H01L 21/14; H01L 21/306

IPC 8 full level

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CPC (source: EP)

H01L 21/02422 (2013.01); **H01L 21/02491** (2013.01); **H01L 21/02568** (2013.01); **H01L 21/02628** (2013.01); **H01L 21/02631** (2013.01); **H01L 31/0322** (2013.01); C25D 3/56 (2013.01); Y02E 10/541 (2013.01)

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