

Title (en)
FORMATION OF A I-III-VI₂ SEMICONDUCTOR LAYER BY HEAT TREATMENT AND CHALCOGENIZATION OF AN I-III METALLIC PRECURSOR

Title (de)
BILDUNG EINER I-III-VI₂-HALBLEITERSCHICHT DURCH WÄRMEBEHANDLUNG UND CHALCOGENIERUNG EINES I-III-METALLISCHEN AUSGANGSSTOFFS

Title (fr)
FORMATION D'UNE COUCHE SEMI-CONDUCTRICE I-III-VI₂ PAR TRAITEMENT THERMIQUE ET CHALCOGENISATION D'UN PRECURSEUR METALLIQUE I-III

Publication
EP 2992549 A1 20160309 (FR)

Application
EP 14727872 A 20140430

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Abstract (en)
[origin: WO2014177809A1] The invention relates to the field of industrial processes for forming a semiconductor layer, especially with a view to photovoltaic applications, and more particularly to a process for forming a semiconductor layer of I-III-VI₂ type by heat treatment and chalcogenization of a metallic precursor of I-III type, the process comprising: - a heating step S1 under an inert atmosphere during which the temperature increases uniformly up to a first temperature T1 of between 460°C and 540°C, in order to enable the densification of the metallic precursor (2), and - a chalcogenization step S2 beginning at said first temperature T1 and during which the temperature continues to increase up to a second temperature T2, a stabilization temperature, of between 550°C and 600°C, in order to enable the formation of the semiconductor layer. The formation of a semiconductor layer, or equivalently of an absorber, having a gain in conversion efficiency of around 4%, is thus advantageously achieved.

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Citation (search report)
See references of WO 2014177809A1

Citation (examination)
WO 2009105423 A1 20090827 - FILM SOLAR TECH INC [US], et al

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