

Title (en)

METALLIC DISPERSION AND FORMATION OF COMPOUND FILM FOR PHOTOVOLTAIC DEVICE ACTIVE LAYER

Title (de)

METALLDISPERSION UND BILDUNG EINES VERBUNDFILMES FÜR EINE AKTIVE SCHICHT EINER PHOTOVOLTAISCHEN VORRICHTUNG

Title (fr)

DISPERSION METALLIQUE ET FORMATION D'UN FILM DE COMPOSE POUR COUCHE ACTIVE DE DISPOSITIF PHOTOVOLTAIQUE

Publication

EP 1861916 A4 20130327 (EN)

Application

EP 06748410 A 20060316

Priority

- US 2006009534 W 20060316
- US 8116305 A 20050316
- US 24349205 A 20051003

Abstract (en)

[origin: WO2006101986A2] A compound film may be formed by formulating a mixture of elemental nanoparticles composed of the IB, the IIIA, and, optionally, the VIA group of elements having a controlled overall composition. The nanoparticle mixture is combined with a suspension of nanoglobules of gallium to form a dispersion. The dispersion may be deposited onto a substrate to form a layer on the substrate. The layer may then be reacted in a suitable atmosphere to form the compound film. The compound film may be used as a light-absorbing layer in a photovoltaic device. Optionally, the compound film for an active layer of a photovoltaic device may be formed in two or more sub-layers. A first sub-layer having a first component of the active layer may be formed on a substrate with a first process. A second sub-layer including a second component of the active layer may then be formed using a second process such that the first sublayer is disposed between the second sub-layer and the substrate. The second component may have a different chemical composition than the first component. The first and/or second sub-layer may comprise one or more components in the form of particles and/or globules. This procedure may be repeated any number of times for any number of sub-layers so that active layer can be built up sequentially. The different chemical compositions of the components in the sub-layers can provide the active layer with a graded bandgap.

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

- [X1] WO 02084708 A2 20021024 - BASOL BULENT M [US]
- [X1] EP 0978882 A2 20000209 - INT SOLAR ELECTRIC TECHNOLOGY [US]
- See references of WO 2006101986A2

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WO2013045731A1

Designated contracting state (EPC)

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