

Title (en)

SOLAR CELL AND METHOD OF MANUFACTURING A SOLAR CELL

Title (de)

SOLARZELLE UND VERFAHREN ZUR HERSTELLUNG EINER SOLARZELLE

Title (fr)

PILE PHOTOVOLTAÏQUE ET PROCÉDÉ DE FABRICATION D'UNE PILE PHOTOVOLTAÏQUE

Publication

EP 2342758 A2 20110713 (EN)

Application

EP 09788336 A 20090923

Priority

- NL 2009050572 W 20090923
- EP 08164942 A 20080923
- EP 09788336 A 20090923

Abstract (en)

[origin: EP2166577A1] A solar cell is provided with a down-converter that converts incoming high energy photons into two or lower energy photons before conversion to electric current, in order to provide for more efficient conversion. The down-converter comprises a combination of Neodymium and Ytterbium ions in a sulfide. The sulfide may be Indium Sulfide, doped with the Neodymium and Ytterbium. The indium sulfide may be combined with a CIS (Copper Indium Sulfide) layer to form active layers of a solar cell, or the sulfide with Neodymium and Ytterbium may be used as a separate filter before conversion to electric current. A solar cell may be provided with an up converter realized by means of quantum dots in an absorber matrix.

IPC 8 full level

H01L 31/032 (2006.01); **H01L 31/055** (2006.01); **H01L 31/075** (2006.01)

CPC (source: EP)

H01L 31/032 (2013.01); **H01L 31/0323** (2013.01); **H01L 31/055** (2013.01); **Y02E 10/52** (2013.01); **Y02E 10/541** (2013.01); **Y02E 10/548** (2013.01); **Y02P 70/50** (2015.11)

Citation (search report)

See references of WO 2010036109A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

EP 2166577 A1 20100324; EP 2342758 A2 20110713; WO 2010036109 A2 20100401; WO 2010036109 A3 20100520

DOCDB simple family (application)

EP 08164942 A 20080923; EP 09788336 A 20090923; NL 2009050572 W 20090923