

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
26 May 2011 (26.05.2011)

PCT

(10) International Publication Number
WO 2011/061011 A3

(51) International Patent Classification:
H01L 31/0224 (2006.01) *H01L 31/18* (2006.01)

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(21) International Application Number:
PCT/EP2010/065240

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(22) International Filing Date:
12 October 2010 (12.10.2010)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
12/621,226 18 November 2009 (18.11.2009) US

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(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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[Continued on next page]

(54) Title: HOLEY ELECTRODE GRIDS FOR PHOTOVOLTAIC CELLS WITH SUBWAVELENGTH AND SUPERWAVELENGTH FEATURE SIZES

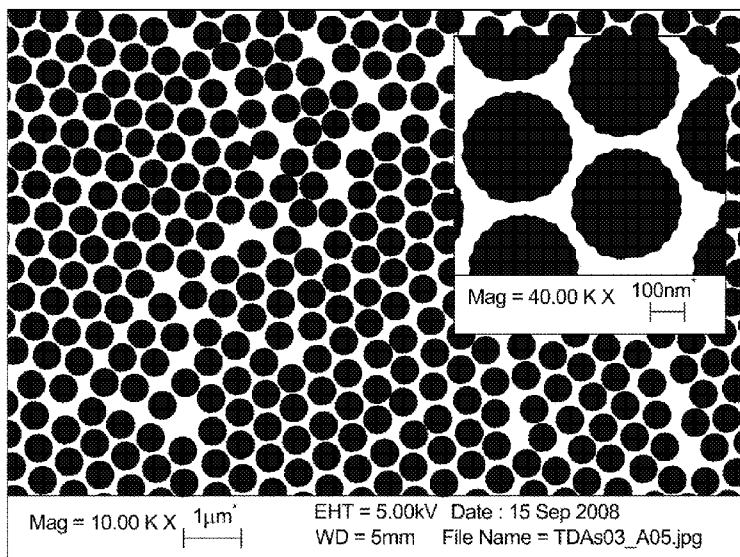


FIG. 8

(57) Abstract: A photovoltaic cell and a method of forming an electrode grid on a photovoltaic semiconductor substrate of a photovoltaic cell are disclosed. In one embodiment, the photovoltaic cell comprises a photovoltaic semiconductor substrate; a back electrode electrically connected to a back surface of the substrate; and a front electrode electrically connected to a front surface of the substrate. The substrate, back electrode, and front electrode form an electric circuit for generating an electric current when said substrate absorbs light. The front electrode is comprised of a metal grid defining a multitude of holes. These holes may be periodic, aperiodic, or partially periodic. The front electrode may be formed by depositing nanospheres on the substrate; forming a metallic layer on the substrate, around the nanospheres; and removing the nanospheres, leaving an electrode grid defining a multitude of holes on the substrate.

WO 2011/061011 A3



Published:

(88) Date of publication of the international search report:
2 February 2012

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2010/065240

A. CLASSIFICATION OF SUBJECT MATTER
 INV. H01L31/0224 H01L31/18
 ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, WPI Data

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X	WO 2009/119161 A2 (TOSHIBA KK [JP]; TSUTSUMI EISHI [JP]; NAKANISHI TSUTOMU [JP]; KITAGAWA) 1 October 2009 (2009-10-01) the whole document -----	1-10, 18-20
X	EP 0 969 517 A1 (IBM [US]) 5 January 2000 (2000-01-05)	1-3,6-10
Y	paragraphs [0036], [0042]; figures 1, 3 -----	11-20
X	EP 1 180 802 A2 (NEC RES INST INC [US]) 20 February 2002 (2002-02-20)	1-3,6-9
Y	paragraph [0013]; figures 3a-3e -----	11-20
X	US 2009/213367 A1 (GREEN MINO [GB]) 27 August 2009 (2009-08-27) figures 1a-1d -----	1-10
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See patent family annex.

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Date of the actual completion of the international search

5 December 2011

Date of mailing of the international search report

09/12/2011

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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2010/065240

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007/049047 A1 (FUJIMOTO KIYOSHI [JP] ET AL) 1 March 2007 (2007-03-01) the whole document -----	1-20

INTERNATIONAL SEARCH REPORT

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International application No PCT/EP2010/065240

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