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(71) Applicant (for all designated States except US): **RE-SEARCH FOUNDATION OF THE CITY UNIVERSITY OF NEW YORK** [US/US]; 230 West 41st Street, New York, NY 10036 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KODER, Ronald, Lee** [US/US]; 472 40th St., Brooklyn, NY 11232 (US). **CROUSE, David, Thomas** [US/US]; 15 W. 72nd Street, Pat. 5A, New York, NY 10023 (US).

(74) Agents: **BLACK, Bruce E.**, et al.; Frommer Lawrence & Haug LLP, 745 Fifth Avenue, New York, NY 10151 (US).

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(54) Title: PATTERNED COMPOSITE LIGHT HARVESTING STRUCTURES AND METHODS OF MAKING AND USING

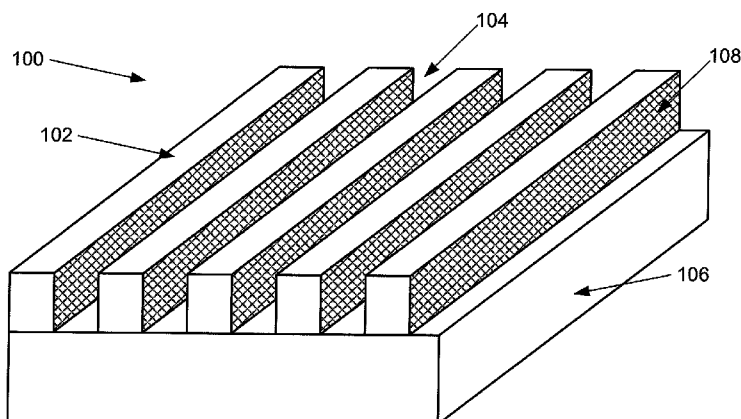


Fig. 1

(57) Abstract: A light harvesting arrangement includes a conductive layer defining a plurality of cavities through the conductive layer. Each cavity has a lateral cross-sectional dimension in a range of 25 nanometers to 3000 nanometers and the cavities are configured and arranged to preferentially capture light in a wavelength band. The light harvesting arrangement also includes a light utilizing material disposed on the walls of the cavities or within one or more light receiving structures that receives light from the cavities (or both). The light utilizing material is configured and arranged to absorb light captured by the cavities.



A. CLASSIFICATION OF SUBJECT MATTER***H01L 31/042(2006.01)i***

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 31/042; H01L 31/04; H01L 31/18; H01L 31/0256; H01L 31/00

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: light harvesting, cavity, light utilizing material, groove, absorb, capture

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2006-0112985 A1 (THOMAS HANTSCHER et al.) 01 June 2006 See abstract, paragraphs [0062]-[0080], figure 8, claims 1-3.	1-8, 10, 19, 20 9, 11-18
A	US 2007-0157965 A1 (SANG-WOOK PARK) 12 July 2007 See abstract, paragraphs [0034]-[0051], figure 1.	1-20
A	US 2009-0032107 A1 (DONG SOO KIM et al.) 05 February 2009 See abstract, paragraphs [0024]-[0031], figure 1, claim 1.	1-20
A	JP 09-213976 A (TOSHIBA ENG. CO., LTD.) 15 August 1997 See abstract, figures 1 and 2, claims 1-3.	1-20



Further documents are listed in the continuation of Box C.



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Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-
gu, Daejeon 302-701, Republic of Korea

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Authorized officer

OH, Je Uk

Telephone No. 82-42-481-8222



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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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