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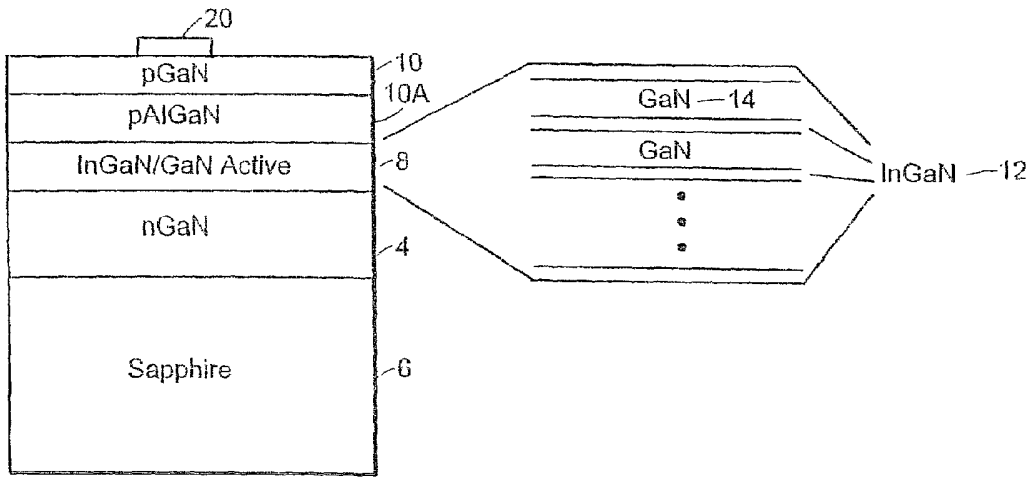
[Continued on next page]

(54) Title: EFFICIENT LIGHT EMITTING DIODES AND LASER DIODES



(57) Abstract: An optoelectronic device such as an LED or laser which produces spontaneous emission by recombination of carriers (electrons and holes) trapped in Quantum Confinement Regions formed by transverse thickness variations in Quantum Well layers of group III nitrides.

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INTERNATIONAL SEARCH REPORT

Inte I Application No
PCT/US 03/05566

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01L33/00 H01S5/34

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)
IPC 7 H01S

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)
INSPEC, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CHICHIBU S ET AL: "Exciton localization in InGaN quantum well devices" 25TH ANNUAL CONFERENCE ON THE PHYSICS AND CHEMISTRY OF SEMICONDUCTOR INTERFACES, SALT LAKE CITY, UT, USA, 18-21 JAN. 1998, vol. 16, no. 4, pages 2204-2214, XP002274465 Journal of Vacuum Science & Technology B (Microelectronics and Nanometer Structures), July-Aug. 1998, AIP for American Vacuum Soc, USA ISSN: 0734-211X the whole document ---	1-32
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	-/--	

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
22 March 2004	08/04/2004

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Kästner, M

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Int nal Application No
PCT/US 03/05566

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CHO H K ET AL: "Influence of strain-induced indium clustering on characteristics of InGaN/GaN multiple quantum wells with high indium composition" JOURNAL OF APPLIED PHYSICS, 1 FEB. 2002, AIP, USA, vol. 91, no. 3, pages 1104-1107, XP002274466 ISSN: 0021-8979 figure 1	1,13,17, 29
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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