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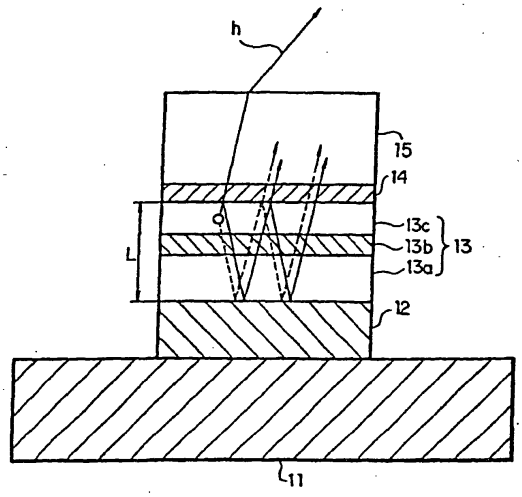
(54) Display device

(57) In an organic EL device having a first electrode (12) of a light reflective material, organic layer including an organic light emitting layer (13c), semitransparent reflection layer (14), and second electrode (15) of a transparent material that are stacked sequentially, and so configured that the organic layer functions as a cavity portion of a cavity structure, light that resonates in a certain spectral width (wavelength λ) is extracted by so configuring that optical path length L becomes minimum in a range satisfying $(2L)/\lambda + \Phi(2\pi) = m$ (m is an integer) where the phase shift produced in light generated in the organic light emitting layer when reflected by opposite ends of the cavity portion is Φ radians, L is optical path length of the cavity portion, and λ is the peak wavelength of the spectrum of part of light to be extracted.

Fig. 4



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EUROPEAN SEARCH REPORT

Application Number
EP 09 01 2631

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	TOKITO S; NODA K; TAGA Y: "Strongly directed single mode emission from organic electroluminescent diode with a microcavity", APPLIED PHYSICS LETTERS, AIP, AMERICAN INSTITUTE OF PHYSICS, MELVILLE, NY, US, vol. 68, no. 19, 6 May 1996 (1996-05-06), pages 2633-2635, XP012015184, ISSN: 0003-6951, DOI: 10.1063/1.116205	1,3	INV. H01L51/52 H05B33/12 H05B33/24 H05B33/14 H01L33/00 G02B5/28
Y	* page 2633, column 1; figure 1 * * page 2634, column 1; figure 2 *	2,4	
Y	EP 0 653 902 A1 (HITACHI LTD [JP]) 17 May 1995 (1995-05-17) * column 8, lines 4-13; figure 18 * * column 11, lines 20-37 *	2,4	
A	GU G ET AL: "A metal-free, full-color stacked organic light-emitting device", APPLIED PHYSICS LETTERS, AIP, AMERICAN INSTITUTE OF PHYSICS, MELVILLE, NY, US, vol. 74, no. 2, 11 January 1999 (1999-01-11), pages 305-307, XP012022675, ISSN: 0003-6951, DOI: 10.1063/1.123006 * figures 1,3 *	1-4	

TECHNICAL FIELDS SEARCHED (IPC)
H01L

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	11 May 2012	Beierlein, Udo

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 09 01 2631

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11-05-2012

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	显示设备		
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[标]申请(专利权)人(译)	索尼公司		
申请(专利权)人(译)	索尼公司		
当前申请(专利权)人(译)	索尼公司		
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IPC分类号	H01L51/52 H05B33/12 H05B33/24 H05B33/14 H01L33/00 G02B5/28 H01L27/32 H01L33/10 H01L33/26 H01L33/42 H01L33/44		
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优先权	1999330805 1999-11-22 JP 2000251996 2000-08-23 JP		
其他公开文献	EP2154737A2		
外部链接	Espacenet		

摘要(译)

在具有光反射材料的第一电极（12）的有机EL器件中，包括有机发光层（13c）的有机层，半透明反射层（14）和堆叠的透明材料的第二电极（15）顺序地配置有机层用作腔结构的空腔部分，通过如此配置光路长度L在满足（2L）的范围内变得最小来提取在一定光谱宽度（波长λ）中谐振的光。 /λ+Φ（2π）= m（m是整数），其中在由腔部分的相对端反射时在有机发光层中产生的光产生的相移是Φ弧度，L是腔的光路长度部分，λ是要提取的光的一部分光谱的峰值波长。

Fig. 4