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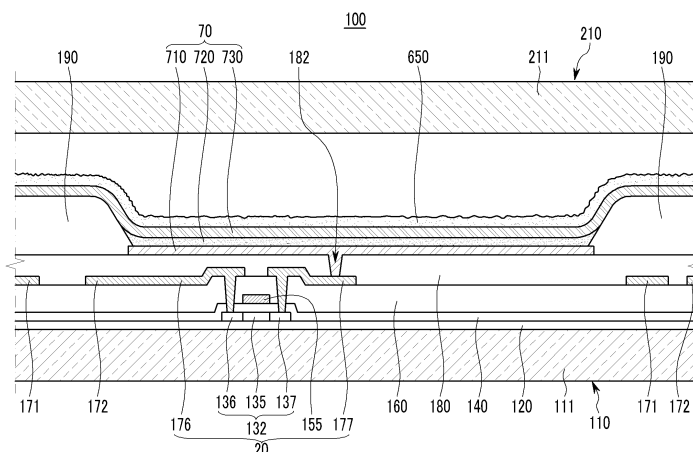
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(54) **Organic light emitting diode display**

(57) Embodiments provide an organic light emitting diode display (100). The display includes a substrate (110), a pixel electrode (710) formed on the substrate, and an organic emissive layer (720) formed on the pixel electrode. A common electrode (730) is formed on the organic emissive layer. In addition, a crystallized light

scattering layer (650) is formed on the common electrode. The crystallized light scattering layer may be a crystallized organic or crystallized inorganic layer having a rough surface in order to effectively scatter light and prevent phenomenon, such as Newton's Rings from occurring in the display.

FIG. 2





EUROPEAN SEARCH REPORT

Application Number
EP 10 15 3067

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	US 2008/048557 A1 (BIRSTOCK JAN [DE] ET AL) 28 February 2008 (2008-02-28)	1-3,5,6,8,9	INV. H01L51/52
Y	* paragraph [0049]; figures 1,2 * * paragraph [0041] * * paragraph [0095] * * paragraph [0009] * * paragraph [0067] * * paragraph [0052] *	4	
Y	----- YE LIHUA ET AL: "The effect of scattering particles on the photoluminescence of organic dye films" NANO-ELECTRONICS CONFERENCE, 2008. INEC 2008. 2ND IEEE INTERNATIONAL, IEEE, PISCATAWAY, NJ, USA, 24 March 2008 (2008-03-24), pages 630-632, XP031295432 ISBN: 978-1-4244-1572-4 * abstract *	4	
X	----- US 2006/006795 A1 (STRIP DAVID R [US]) 12 January 2006 (2006-01-12) * paragraph [0035]; figure 2 * * paragraph [0042] * -----	1-3,9	TECHNICAL FIELDS SEARCHED (IPC) H01L
3 The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 15 July 2010	Examiner 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.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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15-07-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008048557 A1	28-02-2008	CN 101019250 A	15-08-2007
		WO 2006010355 A2	02-02-2006
		DE 102004035965 A1	08-06-2006
		EP 1771895 A2	11-04-2007
		JP 2008507809 T	13-03-2008
		KR 20070044454 A	27-04-2007

US 2006006795 A1	12-01-2006	WO 2006017118 A2	16-02-2006

专利名称(译)	有机发光二极管显示器		
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发明人	JEONG, HEE-SEONG JEON, HEE-CHUL JUNG, WOO-SUK JEONG, CHUL-WOO KWAK, NOH-MIN KIM, EUN-AH PARK, SOON-RYONG LEE, JOO-HWA		
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CPC分类号	H01L51/5268 H01L27/3246 H01L51/0081		
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其他公开文献	EP2216840A2 EP2216840B1		
外部链接	Espacenet		

摘要(译)

实施例提供有机发光二极管显示器。该显示器包括基板，形成在基板上的像素电极，以及形成在像素电极上的有机发光层。在有机发光层上形成公共电极。另外，在公共电极上形成结晶光散射层。结晶光散射层可以是具有粗糙表面的结晶有机或结晶无机层，以有效地散射光并防止现象，例如在显示器中出现牛顿环。

FIG. 2

