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(54) **OLED display panel, driving circuit, driving method, and display device**

(57) The present invention relates to the field of organic light emitting diode (OLED) display, and provides an OLED display panel, a driving circuit, a driving method and a display device. The OLED display panel comprises: a first transparent substrate and a second transparent substrate arranged opposite to each other; an OLED array formed on one face of the first transparent substrate facing the second transparent substrate, and an optical display array and a first optical film formed on the other face of the first transparent substrate; and a second optical film formed on one face of the second transparent substrate opposite to the first transparent substrate, and an optical display array formed on the other face of the second transparent substrate, wherein the first and second optical films can be switched between a non-opaque status and an opaque status. According to the present invention, it is able to achieve double-sided display of the OLED display panel.

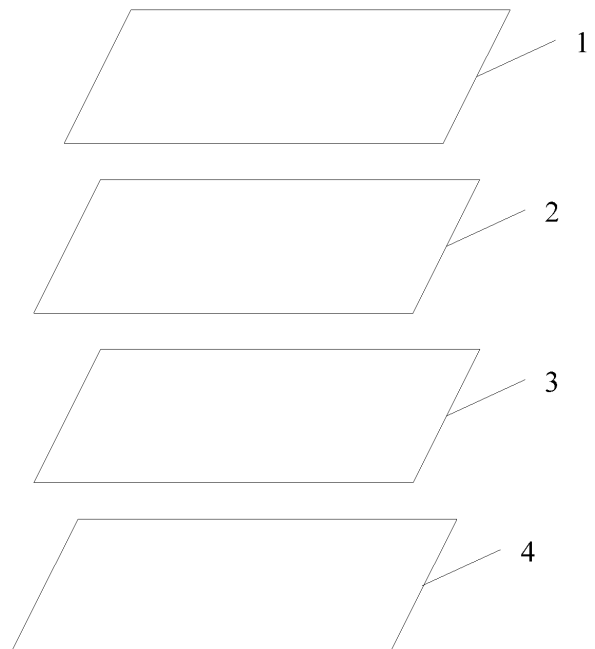


Fig. 1



EUROPEAN SEARCH REPORT

Application Number
EP 13 19 2293

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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 2005/041009 A1 (KURODA KAZUO [JP]) 24 February 2005 (2005-02-24) * paragraphs [0059] - [0062]; figures 2,3,5A,5B *	1-4,9-11	INV. H01L27/32
X	US 2008/303982 A1 (JIN DONG-UN [KR] ET AL) 11 December 2008 (2008-12-11) * the whole document *	1-5,9-11	
			TECHNICAL FIELDS SEARCHED (IPC)
			H01L G09G
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		26 September 2017	Wolfbauer, Georg
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			

EPO FORM 1503 03/02 (P04C01)



Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-5(completely); 9-11(partially)

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-5(completely); 9-11(partially)

A bidirectionally emitting OLED comprising on both side shutter layers and a method of driving the OLED.

2. claims: 6-8(completely); 9-11(partially)

A driving circuit suitable to drive a bidirectionally emitting OLED comprising on both sides shutter layers.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 13 19 2293

5 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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-09-2017

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		EP 1510994 A1	02-03-2005
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专利名称(译)	OLED显示面板，驱动电路，驱动方法和显示装置		
公开(公告)号	EP2731140A3	公开(公告)日	2018-02-21
申请号	EP2013192293	申请日	2013-11-11
[标]申请(专利权)人(译)	京东方科技集团股份有限公司 北京京东方显示技术有限公司		
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IPC分类号	H01L27/32		
CPC分类号	G09G3/3216 G09G3/3283 G09G2310/0213 G09G2310/0283 G09G2320/0686 H01L27/3232 H01L2251/5323 G09G3/3208 H05B33/12		
优先权	201210451317.8 2012-11-12 CN		
其他公开文献	EP2731140A2		
外部链接	Espacenet		

摘要(译)

本发明涉及有机发光二极管 (OLED) 显示器领域，提供一种OLED显示面板，驱动电路，驱动方法和显示装置。OLED显示面板包括：彼此相对设置的第一透明基板和第二透明基板；OLED阵列，形成在第一透明基板的面对第二透明基板的一个面上；以及光学显示阵列和第一光学膜，形成在第一透明基板的另一个面上；以及第二光学膜，形成在所述第二透明基板的与所述第一透明基板相对的一个面上，以及形成在所述第二透明基板的另一个面上的光学显示阵列，其中，所述第一光学膜和所述第二光学膜可以在非不透明的状态和不透明的状态。根据本发明，能够实现OLED显示面板的双面显示。

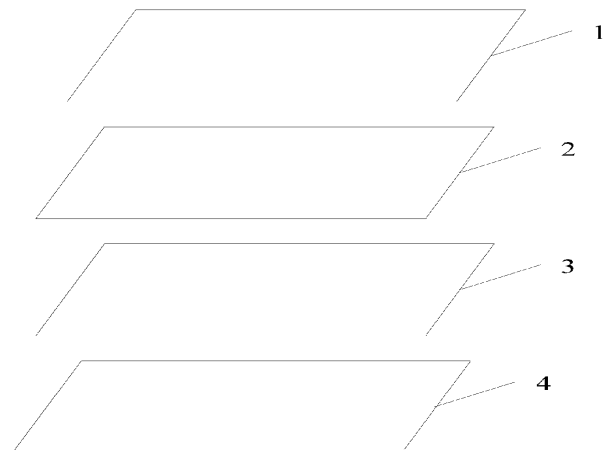


Fig. 1