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(54) **Phosphor thin film, preparation method, and EL panel**

(57) In a phosphor thin film comprising a matrix material and a luminescence center, the matrix material has the compositional formula: $M^{II}_v A_x B_y O_z S_w$ wherein M^{II} is Zn, Cd or Hg, A is Mg, Ca, Sr, Ba or rare earth element, B is Al, Ga or In, and atomic ratios v , x , y , z and w are

$0.005 \leq v \leq 5$, $1 \leq x \leq 5$, $1 \leq y \leq 15$, $0 < z < 30$, and $0 < w < 30$. The phosphor thin film of quality is formed at low cost by a low-temperature process, enabling manufacture of full-color EL panels.



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 1 170 350 A (TDK CORPORATION) 9 January 2002 (2002-01-09) * paragraph [0010] * * paragraphs [0019], [0020] * * paragraphs [0021] - [0028] * * paragraphs [0036] - [0039] *	1-15	C09K11/84 H05B33/14 C09K11/64 C09K11/62
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 26, 1 July 2002 (2002-07-01) & JP 2001 262140 A (NIPPON HOSO KYOKAI <NHK>), 26 September 2001 (2001-09-26) Phosphor and EL. Zn _A lyS ₄ -xO _x : Eu * abstract *	1-10	
A	US 4 216 408 A (DE MEESTER, EMIEL P J ET AL) 5 August 1980 (1980-08-05) Phosphor : Zn Sr ₂ Al ₁₂ O ₂₁ : Eu no S * column 11; examples 33,34,36,43,45 * * column 6 *	1-10	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 21, 3 August 2001 (2001-08-03) & JP 2001 107043 A (DAIDEN CO LTD), 17 April 2001 (2001-04-17) Phosphor : Zn _{0.05} Ba _{0.8} Mg _{0.95} Yb _{0.1} A ₁₉ .9017:Eu no S * abstract *	1-10	C09K H01J H05B

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 19 September 2005	Examiner Vanier, C
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 03.82 (PC/MC01)



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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
2 The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 19 September 2005	Examiner Vanier, C
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
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EP 03 25 0741

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专利名称(译)	磷光体薄膜，制备方法和EL面板		
公开(公告)号	EP1335013A3	公开(公告)日	2005-11-09
申请号	EP2003250741	申请日	2003-02-05
[标]申请(专利权)人(译)	东京电气化学工业株式会社		
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IPC分类号	H05B33/10 C09K11/00 C09K11/08 C09K11/62 C09K11/64 C09K11/77 C09K11/84 C09K11/86 H05B33/14		
CPC分类号	C09K11/7729 C09K11/773 C09K11/7731 C09K11/7734 C09K11/7789 H05B33/14 Y10S428/917		
优先权	2002030133 2002-02-06 JP 2002381967 2002-12-27 JP		
其他公开文献	EP1335013A2		
外部链接	Espacenet		

摘要(译)

在包含基质材料和发光中心的磷光体薄膜中，基质材料具有组成式： $MIIvAxByOzSw$ ，其中MII是Zn，Cd或Hg，A是Mg，Ca，Sr，Ba或稀土元素，B是Al，Ga或In，原子比v，x，y，z和w为 $0.005 \leq v \leq 5, 1 \leq x \leq 5, 1 \leq y \leq 15, 0 < z < 30, 0 < w < 30$ 。通过低温工艺以低成本形成质量薄膜，从而能够制造全色EL面板。

DOCUMENTS CONSIDERED TO BE RELEVANT		Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages		
X	EP 1 170 359 A (TDK CORPORATION) 9 January 2002 (2002-01-09) * paragraph [0010] * * paragraphs [0019] - [0020] * * paragraphs [0021] - [0029] * * paragraphs [0036] * -----	1-15	C09K11/84 H05B33/14 C09K11/64 C09K11/62
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A	US 4 216 408 A (DE MEESTER, EMIEL P J ET AL) 5 August 1980 (1980-08-05) Phosphor: Zn SrZn ₁₂ O ₂₁ ; Eu no. 5 * column 11; examples 33,34,36,43,45 * column 6 -----	1-10	
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 22, ----- 3 August 2001 (2001-08-03) & JP 2001 107043 A (DAIDEN CO LTD). 17 April 2001 (2001-04-17) Phosphor: Zn _{0.05} Ba _{0.8} Hg _{0.95} Yb _{0.1} A ₁₉ 9017; Eu no. 5 * abstract * -----	1-10	C09K H01J H05B

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The present search report has been drawn up for all claims			
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