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(71) Applicant(s):

DENKA COMPANY LIMITED [JP/JP]; 1-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo 1038338 (JP) (*for all designated states*)

(72) Inventor(s):

EMOTO, Hideyuki; c/o Denka Company Limited DENKA Innovation Center, 5-1, Asahi-machi 3-chome, Machida-city, Tokyo 1948560 (JP)

YANAGI, Shinichi; c/o Denka Company Limited DENKA Innovation Center, 5-1, Asahi-machi 3-chome, Machida-city, Tokyo 1948560 (JP)

ICHIKAWA, Masayoshi; c/o Denka Company Limited Omuta Plant, 1, Shinkai-machi, Omuta-city, Fukuoka 8368510 (JP)

ITO, Kazuhiro; c/o Denka Company Limited DENKA Innovation Center, 5-1, Asahi-machi 3-chome, Machida-city, Tokyo 1948560 (JP)

(74) Agent(s):

UCHIDA, Naoto; WINGREEN, 302 Tomoda-Sanwa Building, 1-37-4, Kanda-Jinbo-Cho, Chiyoda-ku, Tokyo 1010051 (JP)

(54) Title (EN): PHOSPHOR, LIGHT EMITTING ELEMENT, AND LIGHT EMITTING DEVICE

(54) Title (FR): LUMINOPHORE, ÉLÉMENT ÉLECTROLUMINESCENT ET DISPOSITIF ÉLECTROLUMINESCENT

(54) Title (JA): 蛍光体、発光素子及び発光装置

(57) Abstract:

(EN): The present invention pertains to the following: a phosphor in which humidity resistance is improved by modifying the particle surface of an Mn^{4+} activated complex fluoride phosphor which can achieve high luminance red-color light emission; and a light emitting element and a light emitting device which excel in color rendering properties and in stability as a result of using such phosphor. This phosphor is represented by general formula $A_2MF_6:Mn^{4+}$. Element A is an alkali metal element containing at least K. Element M is at least one type of metal element selected from among Si, Ge, Sn, Ti, Zr, and Hf. F is fluorine and Mn is manganese. The phosphor is characterized by containing Ca in a concentration range of 20-10000ppm and Cl in a concentration range of 20-300ppm.

(FR): La présente invention concerne : un luminophore dans lequel la résistance à l'humidité est améliorée par une modification de la surface de particule d'un complexe de fluorure et de phosphore activé par du Mn^{4+} qui permet d'atteindre une émission de lumière de couleur rouge de luminance élevée ; un élément électroluminescent, ainsi qu'un dispositif électroluminescent, qui sont excellents en termes de propriétés de rendu de couleur et de stabilité suite à l'utilisation de ce luminophore. Ce luminophore est représenté par la formule générale $A_2MF_6:Mn^{4+}$. L'élément A est un élément métallique alcalin contenant au moins K.

L'élément M est au moins un type d'élément métallique choisi parmi le Si, le Ge, le Sn, le Ti, le Zr et l'Hf. F est le fluor et Mn est le manganèse. Le luminophore est caractérisé en ce qu'il contient du Ca dans une plage de concentration allant de 20 à 10 000 ppm et du Cl dans une plage de concentration allant de 20 à 300 ppm.

(JA): 本発明は、高輝度の赤色発光を実現することが可能な Mn^{4+} 付活複フッ化物蛍光体の粒子表面を改質することにより耐湿性を改善した蛍光体、並びに、当該蛍光体を用いることにより演色性と安定性に優れた発光装置及び発光装置に関する。本発明に係る蛍光体は、一般式: $A_2MF_6:Mn^{4+}$ で表され、元素Aは少なくともKを含有するアルカリ金属元素であり、元素MはSi、Ge、Sn、Ti、Zr及びHfから選ばれる一種以上の金属元素であり、Fはフッ素であり、Mnはマンガンである蛍光体であって、Caを20ppm以上10000ppm以下、又は、Clを20ppm以上300ppm以下の濃度範囲で含有することを特徴とする。

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