

OXYNITRIDE LUMINESCENT MATERIAL, PREPARATION METHOD, AND LED LIGHT SOURCE MANUFACTURED THEREBY

ABSTRACT

The present invention relates to an oxynitride luminescent material, a preparation method, and an LED light source manufactured thereby. Chemical compositions of the luminescent material are $M_1 a M_2 b Si c O d N e : xEu^{2+}$, M_1 being one or two or a combination of more than two of elements: Mg, Ca, Sr, Ba, and Zn; M_2 being one or a combination of two of elements: Tb and Tm; a, b, c, d, e and x being molar coefficients of atoms, and $1 \leq a \leq 4$, $0.001 \leq b \leq 0.6$, $0.8 \leq c \leq 1.2$, $0 < d \leq 6$, $0 < e < 2$, $0.001 \leq x \leq 0.3$. An excitation spectrum of the luminescent material is wide, and covers ultraviolet light to blue light regions, emitted light is green light to orange red light, and the chemical stability is good, the thermostability is high, and the luminescent material is suitable for being encapsulated into an LED light source in cooperation with an ultraviolet light, near ultraviolet light or blue light LED chip.

[Fig. 2]