



螢光粉體及發光裝置

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市場及需求：

本技術係關於一種紅光氮化物螢光粉體，尤其是，一種適用於發光二極體光源之螢光粉體。發光二極體(LED)是一種無汞的環保光源，同時具有低耗電、高使用壽命、反應速率快、無熱輻射、體積小等優點。本技術製備之螢光粉體，以藍光激發光激發，可產生寬廣紅光放射峰，並可搭配藍光與黃光加成，而產生暖白光，以做為暖白光 LED 使用，極符合照明產業及顯示器產業之需求。本技術之螢光粉體，可單獨使用，亦可與其他螢光粉體組合使用。本技術復提供一種發光裝置，其具有本技術之螢光粉體。

技術摘要： 本技術係一種紅光氮化物螢光體之製備方法，本技術並提供一種紅光氮化物螢光體之配方，可配合藍光 LED 使用，產生寬廣紅光放射光，可用於白光 LED 發光裝置，俾符合照明及顯示器產業需求。

優勢：

根據本技術利用反應設計，配合特殊反應條件及配方，控制反應氣氛，以製備高亮度紅光氮化物螢光粉體。該螢光體，在藍光 LED 激發下，可產生有效寬廣紅光放射峰，改善過去紅光螢光粉體發光亮度不足之問題。本螢光體並有良好熱穩定性。

競爭產品：

與本技術競爭產品為部分紅光螢光體發光亮度不足及熱穩定性不佳之問題。因本技術製備之螢光體可產生有效寬廣紅光放射峰及良好熱穩定性，故可改善過去紅光螢光粉體發光亮度之問題。

專利簡述：

- (1) 本技術已獲得中華民國專利，專利號碼：I527880。本技術並獲得中國專利，專利號碼：CN103361055B。
- (2) 本技術團隊教授具有研究陶瓷材料二十年以上經驗。
- (3) 本研究團隊具有十年以上研究螢光材料經驗。
- (4) 本技術團隊教授為本校特聘教授，並獲得多次國科會傑出研究獎。

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Phosphor Materials and Lighting Devices

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Market Needs:

The technology is related to a kind of red nitride phosphors which can be used for white-light LED. Led is a kind of energy-saving devices which have the advantages of low-power, long life, fast response rate, and non-radiative, and small volume. The phosphors produced via the present technology can be excited by blue light to produce red light. The combination of yellow and blue light can generate warm white light for the real lighting application. The produced phosphors can be combined with other phosphors. The produced phosphors can be used for various lighting technology.

Our Technology:

The present technology is related to a process to prepare red nitride phosphors. The present technology also supports special compositions to prepare red nitride phosphors. The prepared phosphors with designed compositions can generate broad red light to combine blue LED. The prepared phosphors can be used in warm white-light LEDs. The combined devices can be used for lighting technology.

Strength:

This technology use the design of reactions combined the synthesis conditions and designed compositions to prepare red nitride phosphors having high luminescence. The prepared phosphors can generate broad red light under the excitation of blue light. The prepared phosphors exhibit good thermal stability.

Competing Products:

Part of red phosphors have the problems such as low luminescence intensity and low thermal stability. The phosphors prepared by this technology have high luminescence intensity and good thermal stability. Therefore, the prepared phosphors can overcome the disadvantages of previous phosphors.

Intellectual Properties:

- (1) This technology has obtained ROC patent (I527880)and China patent (CN103361055B).
- (2) The professor in the research team has studied ceramic materials for more than twenty years.
- (3) The research team has studied phosphors materials for more than ten years.
- (4) The professor in the research team is a distinguished professor at NTU, and has obtained many rewards from NSC.

Contact (do not need to fill out):

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