

激光材料和光学元件

三基色滤光片的设计

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摘要: 为了得到纯正的三基色, 以实现大色域显示功能, 采用光学薄膜技术的传递矩阵方法进行了模拟计算, 分别得到红、绿、蓝三色的F-P滤光片, 并将其叠加在一起, 得到将显示光源中杂色滤除、留下三基色的滤光片。结果表明, 三基色滤光片很好地满足了设计要求, 如果应用于显示技术, 可以很好地提高显示器的彩色显示功能。

关键词: 薄膜 三基色 滤光片 传递矩阵 显示技术

Design of optical filters for three primary colors

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Abstract: In order to obtain high-quality three primary colors to realize large color gamut display. Red, green and blue F-P filters were designed by means of transfer matrix method in optical thin film technology. Then these filters were put together to obtain a new filter allowing three primary colors to pass through and reflect other stray colors. The filter can satisfy the design target well. With this filter, color display function of displayer can be enhanced drastically.

Keywords: thin films three primary colors filter transfer matrix display technology

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