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本期目录 | 下期目录 | 过刊浏览 | 高级检索

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器件驱动与控制

LED显示屏的色域校正

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摘要: LED发光在亮度和色度上有一定的离散性,会明显降低LED显示屏的图像质量。文章给出了一种色域校正方法,能在改善LED显示屏的亮度、色度均匀性的同时,确定LED显示屏的显示色域。建立了LED显示屏显示颜色的线性数学模型,对LED显示屏色域校正的目标色域进行了分析,给出了将LED屏幕所有显示像素的显示色域范围校正到目标色域的方法,并通过“白平衡”来实现对颜色坐标的精确控制。实验结果显示,该方法可以将LED显示屏显示色域精确校正到目标色域。

关键词: LED显示屏 线性 色域 白平衡

## Color Gamut Correction of LED Displays

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Abstract: LEDs have uniform problems include brightness aspect and color aspect, which would reduce the image quality of LED displays. This paper gives a method to correct the color gamut of LED displays. The method can solve the uniform problems, while correct the color gamut of LED displays accurately. This paper establishes a linear mathematical model of LED displays' colors, analyzing the target color gamut of LED displays. Then, the correction method with the target color gamut as LED displays' color gamut is introduced. Furthermore, white balance in color gamut correction method is introduced to fix the color coordinates of colors accurately. Experimental results showed that this method can correct the color gamut of LED displays into target color gamut accurately.

Keywords: LED displays linear color gamut white balance

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