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器件驱动与控制

用数模结合的方法实现AM-OLED的白平衡

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摘要: 由于单独使用数字算法会导致灰度级降低,而单独使用模拟算法难以实现微调或者电路过于复杂,文章采用数模结合的方法实现了AM-OLED的白平衡,即通过先后进行模拟调节和数字调节,弥补了二者的不足。先根据三基色确定驱动电压,完成了模拟调节。再进行数字调节,采用了基于L-M优化法的BP学习算法,对OLED的传输特性曲线进行拟合。该算法与传统BP算法相比学习速度得到了提高,网络的收敛加快,避免了系统陷入局部极小的状况。仿真结果和显示结果表明,这种方法实现了图像的白平衡。

关键词: 白平衡 L-M优化法 BP学习算法 matlab仿真

Achievement on White Balance for AM-OLED

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Abstract: As using digital algorithms alone will lead to lower gray level while the use of simulation algorithms alone is difficult to achieve fine-tuning or the circuit is too complex, a method of combining digital and analog is proposed to achieve AM-OLED white balance by using analog simulation and digital adjustment to make up for these shortcomings. Analog simulation is determined by the drive voltage according to the three primary colors. Digital adjustment using LM optimized BP learning algorithm fits the curve of the transmission characteristics of the OLED. Compared with traditional BP algorithms, learning speed of this algorithm is improved, the convergence of the network is accelerated, and it avoids a system into a local minimum. The simulation results and the display results show that this method achieves the white balance of the image.

Keywords: white balance L-M optimized BP learning algorithm matlab simulation

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