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器件物理及器件制备技术

自动光学检测的彩膜分区检查与判定

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摘要： 为了提高自动光学检测系统检测彩膜质量的准确率，降低误判，通过分析由红绿蓝三色组成矩阵结构和Line CCD获取的彩膜
征，在五点周期比较检测的基础上设计一种彩膜缺陷的检测方法。该方法通过对彩膜的机械与光学对位后，通过五点比对进行缺陷的
Line CCD从红绿蓝3个不同的区域获取不同的灰阶值，分别设置3个区域的灰阶值范围和该区域的判定阈值；最后根据缺陷与正常点
的不同对缺陷进行分类，赋予相应的缺陷代码。基于以上3个步骤，实现对整张彩膜的缺陷检测。实验结果表明，采用五点比较、分区
陷分类相结合的方法，缺陷检出的准确率可以提高至99.6%以上。

关键词： 自动光学检查　彩膜　灰阶　缺陷

Color filter partition inspection and judgment of automatic optical inspection

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Abstract: In order to improve the inspection accuracy and reduce misjudgment rate for the color filter quality
inspection in an automatic optical inspection system,a defect inspection method for color filter was proposed b
analyzing the color filter image acquired by the red, green and blue color matrix structure and Line CCD. Three
were used to detect the defect of color filter. Defects of color filter were inspected firstly by the five points com
method after mechanical and optical alignment for color filter.Then, according to Line CCD obtained by three dif
grayscale values from the red, green and blue area, the determination threshold are respectively provided in t
regions. Finally, the defects were classified depending on the grayscale difference in the defect and the normal
and the corresponding defect code is given. The experiment results show that the proposed method composed
five points comparison method, partition detection, defect classification can make inspection accuracy reach mc
99.6%.

Keywords: auto optical inspection　color filter　gray　defect

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