URN etd-0407109-183709-704
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Statistics This thesis had been viewed 39 times. Download 0 times.
Department
Year 2004
Semester 2
Degree Master
Type of Document Master's Thesis
Language English
Title Study of high color purity red light for full color flexible organic light-emitting displays
Date of Defense 0000-00-00
Page Count 110

Keyword
Flexible organic light-emitting devices
Doping
Plastic Substrate

Abstract
Nowadays, there are some situations in the market. For example, FPDs （Flat Panel Displays） has become the trunk stream of the electrical and electronic industry markets. If TFL-LCDs and PDPs can be produced as many as possible with high efficiency, the high price will become the common price. So we can image that FPDs must become the trunk stream in the market of the electrical and electronic industry. But now, most substrates of FPDs are made of glass, so when the size of displays is bigger; the weight will become heavier, then it will burst easily. Now, we had better make the substrates of display by using the flexible materials to replace the glass, then we can reduce the cost. When it comes to the substrate whose material us flexible, now, OEDs （Organic Electroemissive Devices）is the most potential. And compared with other developed displays, organic light-emitting display has some advantages, such as high power efficiency, high brightness, fast response time, and full viewing angle. Besides, it is light, thin and having a big size of dimension. In addition, it can be flexible. Because of these advantages, organic light-emitting displays will replace those FPDs, and become more popular tendency.
Since organic light-emitting devices have been developed, the substrate of organic light-emitting devices, which is made of glass is with some emissive light, including green, blue and red. The radiating efficiency of green light is the best; the other ones are minor. Besides, we can make full color organic light-emitting displays, but we can’t do anything because of the restriction of the glass. Nevertheless, we have a project to make the substrate, which is made of flexible materials. By using the radiating way of Host-Guest system, various concentrations quenching result from different guest concentration, we do the studying of parameters, And then we are able to make the fluorescent red light with better efficiency of the primary colors, RGB, and analyze the completing brightness, operating voltage, operating electric current, and outer quantum. Now, our team is able to make the green light of organic light-emitting devices whose material could be flexible. In addition, we are doing some study about the blue light. Now, in order to achieve the goal that is about the flexible organic light-emitting displays, the red light of flexible organic light-emitting device is the important point that we should develop.
Advisory Committee Chih-Chieh Kang - advisor

Files No Any Full Text File.
Date of Submission 2005-07-28