Characterization of Blue Fluorescent OLED and Seven Segment Display Application

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In this project, our aim is to produce the blue light-emitting diodes using organic polymers and to investigate the electrical and optical properties of OLEDs by using measurement of characterization. As the application of OLEDs set characterization for this purpose is planned for the seven-segment display OLED design. This project has been successfully prepared OLED flourescent blue light.OLED. According to OLED's current / voltage graph is appropriate for diode structure. The brightest moment glow color is blue. The structure's wavelength and color tone does not change, emitted light is proportioanl with their efficiency.Thus; There are no traps in the OLED structure is working well. If blue OLED is developed,it is used in the display technology. At recent scientific studies, OLED structure is changed by different design of the mask. In this project, design and production of mask was tested in laboratory. By the way OLEDs will be produced with different masks in the future. Mask was designed for the 7-segment LED display as a OLED applications. OLED seven segments combined with traditional numbering system that was studied at the last twenty years. Conventional seven-segment display was produced using OLED. It has been successfully worked with an electronic circuit. The most important problem in this project, fast degradation of blue light emitting material and blue light is needed for the production of high energy our device is not stable.For solving this problem, we recommend combination of OLED and OFET structure to improve efficiency and the life of OLED in future studies.

Awards Won:

SPIE, the international society for optics and photonics: Fourth Award of $500