

Poster presentations

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49. Development in Organic light-emitting devices with europium complex and polymeric matrix / Desenvolvimento em dispositivos poliméricos emissores de luz com complexos de európio e matriz polimérica

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Rare earth complex device based are very promising to a full color panel with low cost [1]. Besides, this kind of material provides a very sharp spectrum, reported in literature as purity color [2]. The OLEOs area study are straight for devices applications with high performance employing as commercial as synthesized organic materials in specific configurations, analyzing the thin-films structure take into account a device system. Specifically, Rare Earth complex dispersed in a polymeric matrix have been studied and its results present a non-significant change in turn-on voltage with the concentration of complex. Besides high concentrations values show any decreases in luminance response, however, in our study have found a significant electric instability that will be analyzed in further studies. Therefore, in a complementary study the europium complex was studied with self-assembled thin-films. It was done also in this kind of device a surface treatment with oxygen plasma to compare device performance. These devices show no color and spectral response change, but a strong increase in luminance.

[1] J. Kido et al., Chem. Rev. 102, 2357 (2002).

[2] Xue et al., Sol. Stat. Electr. 53, 397 (2009).