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Tesis: **"DEVELOPMENT OF EFFICIENT OLEDs BASED ON LOW MOLECULAR WEIGHT MOLECULES BY USING EVAPORATED CATHODES UNDER N₂ ATMOSPHERE"**

Resumen:

It was designed and implemented an automatic system for optical characterization of Organic Light Emitting Diodes (OLEDs), this system used a calibrated photodiode connected to an acquisition card data reading voltage directly to the PC, through the LabVIEW program J-V and L-V curves are acquired, as well as current and luminous efficiencies. In this work OLEDs were fabricated based on low molecular weight molecules by the method of solution in a controlled nitrogen atmosphere. LiF/Al cathode was evaporated by using a vacuum evaporation chamber. Molecules were synthesized in the GPOM (Grupo de Propiedades Ópticas de la Materia) group, two of them are derived from carbazole and the other two are derived from tienopirrolodiona. OLEDs based on carbazole derivatives had high luminances ($> 4000 \text{ cd/m}^2$) and high efficiencies ($>20 \text{ cd/A}$), while those made with tienopirrolodiona derivatives showed lower luminances and efficiencies (luminances $<1800 \text{ cd/m}^2$ and efficiencies $<5 \text{ cd/A}$).