

Abstract Submitted  
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**Energy level shift due to the co evaporated LiF in Alq<sub>3</sub>** KIWAN PARK, HUANJUN DING, YONGLI GAO, FRANKY SO — Recently, one of us (FS) observed strong improvement in conductivity of LiF-doped tris (8-hydroxyquinoline) aluminum (Alq<sub>3</sub>). We have investigated the p n-doping of the organic material. The doping induces energy level shift in frontier orbital for about 0.25 eV when the doping ratio by weight is 10 %. Small amount of metal deposition (0.5 Å of Al, Ag, Au) on LiF-doped Alq<sub>3</sub> causes further shift, with Al the most (~1 eV) and Au the least (0.3 eV). Further metal depositions reverse the shift for about 0.5 eV. These results suggest that the metal induced enhancement of n-doping in LiF:Alq<sub>3</sub> contributes to the improvement in conductivity. After 1~2 Å, the properties of metals show up and the Energy levels converge.

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