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Spin valve electrode for organic light emitting devices LIANBIN NIU, YUNXIA GUAN, YUE REN, CHUNYANG KONG, YAN MA, YIPING LIAN, YAN FANG, Department of Physics, Chongqing Normal University — Effects of spin filter on singlet and triplet exciton fractions in organic light-emitting devices (OLEDs) is attracting considerable attention nowadays. Electroluminescence in organic semiconductors strongly depends on the relative population of singlet and triplet excitonic states. Controlling the spin statistics by injecting and transporting carriers with defined spin orientation can amplify a chosen electronic transition increasing the device efficiency or changing the emission spectral band. A spin valve was used as hole injector, substituting the traditional indium tin oxide electrode. A comparison of electroluminescence and IV curves between similar devices with and without spin valve electrode is reported. The result shows that spin valve can successfully replace conventional electrode in OLEDs.

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