

# Spin Effects in Organic Optoelectronic Devices (Presentation Video)

Z. Valy Vardeny, The Univ. of Utah (United States)



## ABSTRACT

Several important developments in the field of Organic Spintronics and magnetic field effect in organic optoelectronic devices will be surveyed and discussed. Organic Spintronics: We demonstrated spin organic light emitting diodes using two FM injecting electrodes, where the electroluminescence depends on the mutual orientation of the electrode magnetization directions. This development has opened up research studies into organic spin-valves in the space-charge limited current regime. Spin effects in organic photovoltaic solar cells: We demonstrated that spin  $\frac{1}{2}$  radical additives to donor-acceptor (D-A) blends improve the power conversion efficiency via resonant spin-spin interaction between the radicals and charge-transfer excitons at the D-A interfaces.

View presentation video on SPIE's Digital Library: <http://dx.doi.org/10.1117/12.2050962>