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Device physics, Organic devices



◆ Research Interests

- ◆ Polymer vertical transistors
- ◆ Polymer light-emitting diodes
- ◆ Polymer solar cells

◆ Selected Publications

- ◆ Y. C. Chao, H. K. Tsai, H. W. Zan, Y. H. Hsu, H. F. Meng, and S. F. Horng, (2011) “Enhancement-mode polymer space-charge-limited transistor with low switching swing of 96 mV/decade”, Applied Physics Letters, Vol. 98, p. 223303.
- ◆ Y. C. Chao, M. C. Ku, W. W. Tsai, H. W. Zan, H. F. Meng, and H. K. Tsai, (2010) “Polymer Space-Charge-Limited Transistor as a Solid-State Vacuum Tube Triode”, Applied Physics Letters, Vol. 97, p. 223307.
- ◆ Y. C. Chao, Y. C. Lin, M. Z. Dai, H. W. Zan, and H. F. Meng, (2009) “Reduced hole injection barrier for achieving high on/off ratio and ultra-low voltage polymer space-charge-limited transistor”, Applied Physics Letters, Vol. 95, p. 203305.
- ◆ Y. C. Chao, M. H. Xie, M. Z. Dai, H. F. Meng, S. F. Horng, and C. S. Hsu, (2008) “Polymer hot-carrier transistor with low bandgap emitter”, Applied Physics Letters, Vol. 92, p. 093310.
- ◆ Y. C. Chao, H. F. Meng, and S. F. Horng, (2006) “Polymer space-charge-limited transistor”, Applied Physics Letters, Vol. 88, p. 223510.

◆ Recent Research Projects

- ◆ Investigation on fundamental optoelectronic characteristics and applications of doped and nanostructured organic semiconductors (NSC)