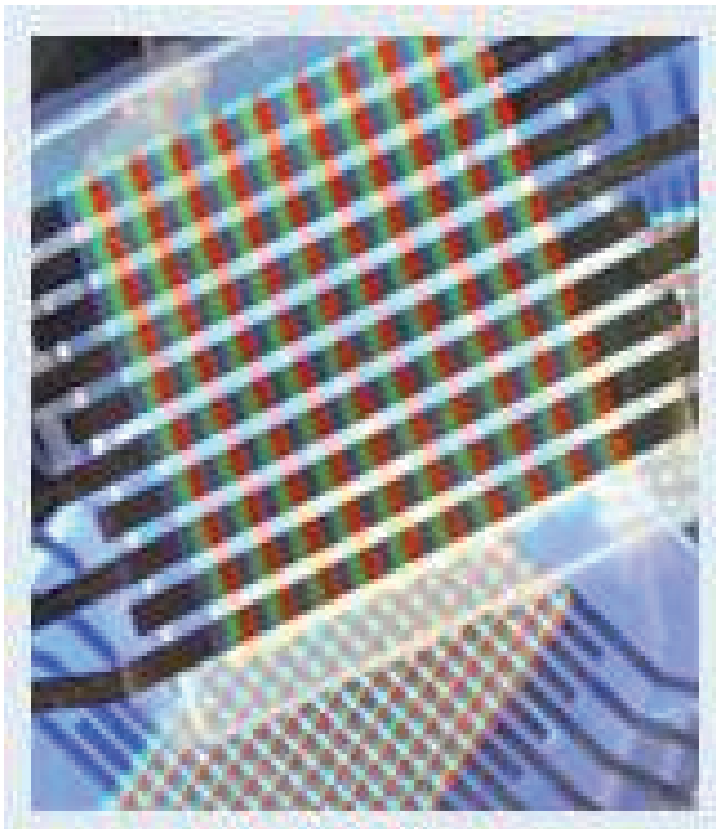


Recent Advances in Solution-Processed Organic Light-Emitting Diodes

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Organic light emitting diodes (OLEDs) based on electroluminescent conjugated polymers are considered as a promising alternative for display and lighting applications, mainly due to their better compatibility with low-cost production techniques and large substrates. A challenge is multiple-layer deposition to improve the efficiency of the devices and, as a result, their lifetime.

This contribution summarizes recent trends in the field of OLEDs with an emphasis on solution-processed devices. We have in the past developed photochemically crosslinkable semiconductors for fabrication of complex multilayer OLEDs and RGB-subpixel patterning [1-2]. Recently, we demonstrated a surface-initiated crosslinking process which simplifies deposition and improved the devices lifetime [3].

[1] C.D. Müller, A. Falcou, N. Reckefuss, M. Rojahn, V. Wiederhirn, P. Rudati, H. Frohne, O. Nuyken, H. Becker, K. Meerholz, *Nature* 421, 829 (2003).

[2] M.C. Gather, A. Köhnen, A. Falcou, H. Becker, K. Meerholz, *Adv. Funct. Mat.* 17, 191 (2007).

[3] A. Köhnen, N. Riegel, M. Gather, C.D. Müller, K. Meerholz, *Adv. Materials* 21, 879 (2009).