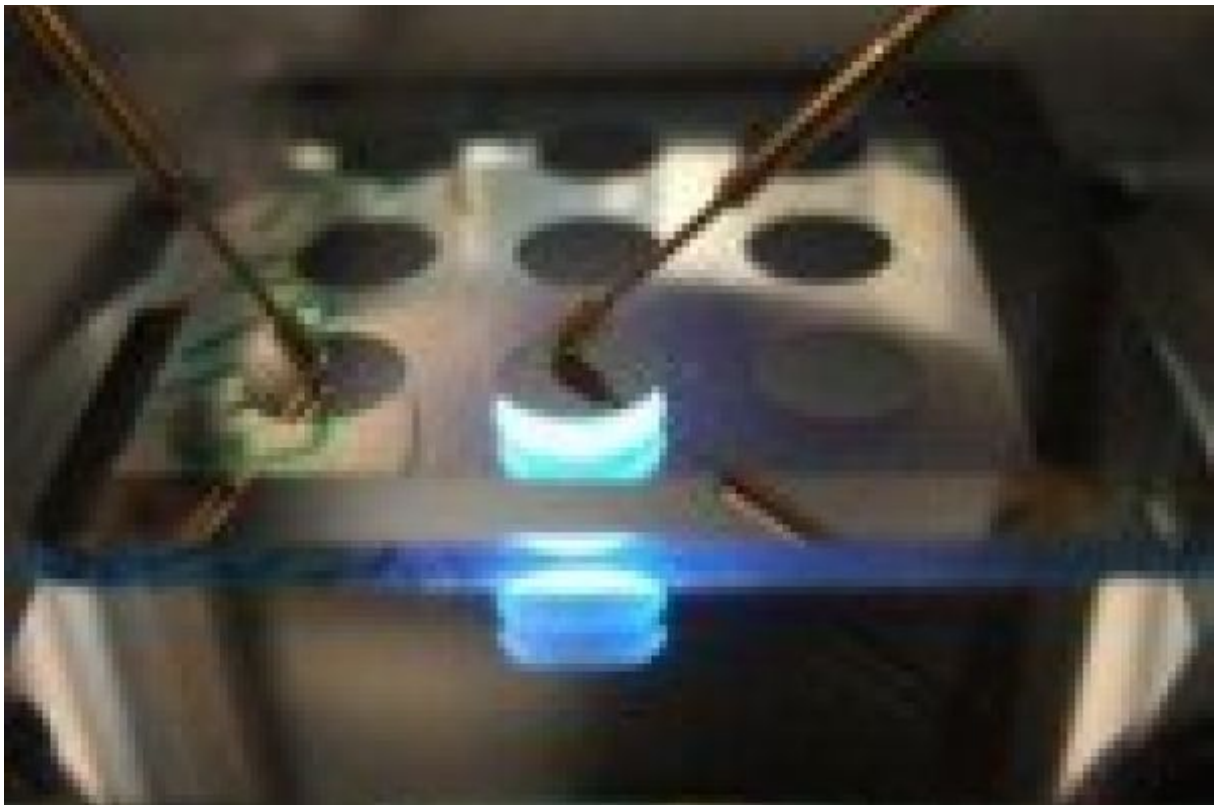

Thin-Film Nickel Anodes

Nickel is a good alternative anode to ITO for OLED, according to an ICFO paper highlighted in Nanotechweb.org.

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The implementation of organic devices is strongly limited by the use of indium tin oxide (ITO) as a bottom electrode. ITO is expensive, scarce, involves high temperature processing, polymer degradation and introduces optical modes that lower the out-coupling efficiency of the device. In a paper published in Nanotechnology, researchers at ICFO have investigated the possibility of using a thin nickel layer instead of ITO as anode for bottom-emitting organic light-emitting diodes. The team has demonstrated that similar efficiencies were reached for devices with either ITO or nickel films of less than 10 nm. The group is composed by PhD student, Danny Krautz, Research Fellow, Stephanie Cheylan, PhD student, Dhriti Sundar Ghosh and ICFO group leader, Prof. Valerio Pruneri. This result has been highlighted by Nanotechweb.org, where it is also remarked that the successful entry of organic light-emitting diodes (OLEDs) into the general lighting market requires not just high-performance devices, but also a significant reduction in cost.