White tandem OLED with carbon nanotube interlayer ALEXIOS PAPADIMITRATOS, Solarno Inc, Nanotech UT Dallas, RAQUEL OVALLES ROBLES, RAY BAUGHMAN, Nanotech UT Dallas, ANVAR ZAKHIDOV, Solarno Inc, Nanotech UT Dallas — White organic light emitting diodes (OLEDs) have become well recognized as an important candidate for future lighting and display applications. An existing idea to generate white color places R, G, B pixels in a side-by-side geometry. Also, white tandem OLEDs have been developed by vertically stacking in series multiple electroluminescent layers. However, such structures require a complex interfacial layer which is usually fabricated by strong dopants to form a p+/n+ interface. We have shown earlier that transparent carbon nanotubes (CNT) can be used as effective three dimensional charge injectors in polymer light emitting diodes[1] and OLEDs[2]. Now, we show that CNT can be used as an interlayer in two cell OLEDs with complimentary colors. We show that tandem devices with CNT interlayers, together with selective barriers and PEDOT:PSS coating can control the device color. In addition, the emission intensity can be controlled by independently tuning the driving voltage and current. In the case of overdoped p+/n+ interlayers we do not have this opportunity which is a great advantage of CNT injectors. We also compare the performance of multiwall CNTs vs. that of single wall CNTs in the tandem OLEDs. [1]R.H.Baughman et al.Science, 297,787-792(2002).[2]C.D.Williams et al.Appl. Phys. Lett. 93,183506(2008).