

## Laser Direct Patterning of Carbon Nanotube Film

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The SWCNTs network are formed on various plastic substrates such as poly(ethylene terephthalate) (PET), polyimide (PI) and soda lime glass using roll-to-roll printing and spray process. Selective patterning of carbon nanotubes film on transparent substrates was performed using a femtosecond laser. This process has many advantages because it is performed without chemicals and is easily applied to large-area patterning. It could also control the transparency and conductivity of CNT film by selective removal of CNTs. Furthermore, selective cutting of carbon nanotube using a femtosecond laser does not cause any phase change in the CNTs, as usually shown in focused ion beam irradiation of the CNTs. The patterned SWCNT films on transparent substrate can be used electrode layer for touch panels of flexible or flat panel display instead indium tin oxide (ITO) film.

**Keywords:** CNT, Femtosecond Laser