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***Stretchable and transparent supercapacitors based on aerosol synthesized single-walled carbon nanotube films***

Stretchable all-solid supercapacitors based on aerosol synthesized single-walled carbon nanotubes (SWCNTs) have been successfully fabricated and tested. High quality SWCNT films with excellent optoelectrical and mechanical properties were used as the current collectors and active electrodes of the stretchable supercapacitors. A transmittance up to 75% was achieved for supercapacitors made from the assembly of two PDMS/SWCNT electrodes and a gel electrolyte in between. The transparent supercapacitor has a specific capacitance of  $17.5 \text{ F g}^{-1}$  and can be stretched up to 120% with practically no variation in the electrochemical performance after 1000 stretching cycles and 1000 charging-discharging cycles.

Superior stretchability of the aerosol synthesized SWCNT films may find broad applications in stretchable electronics, energy storage electrodes and sensors. Such high stretchability, combined with transparency and high specific capacitance confirmed that fabricated supercapacitor has a great potential for broad practical applications utilizing proposed materials and components.