

Supplementary Information

Stretchable and Flexible High-Strain Sensors Made Using Carbon Nanotubes and Graphite Films on Natural Rubber. *Sensors* 2014, 14, 868-876

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Figure S1. Effect of sample size on sensitivity and linearity: Response curves of MWCNT (Cnt) and Graphite (Gra) sensors for different samples/sensor sizes [$W \times L = 10 \times 20$ mm (A1, A2, A3), 10×10 mm (B1, B2, B3), 10×5 mm (C1, C2, C3)].

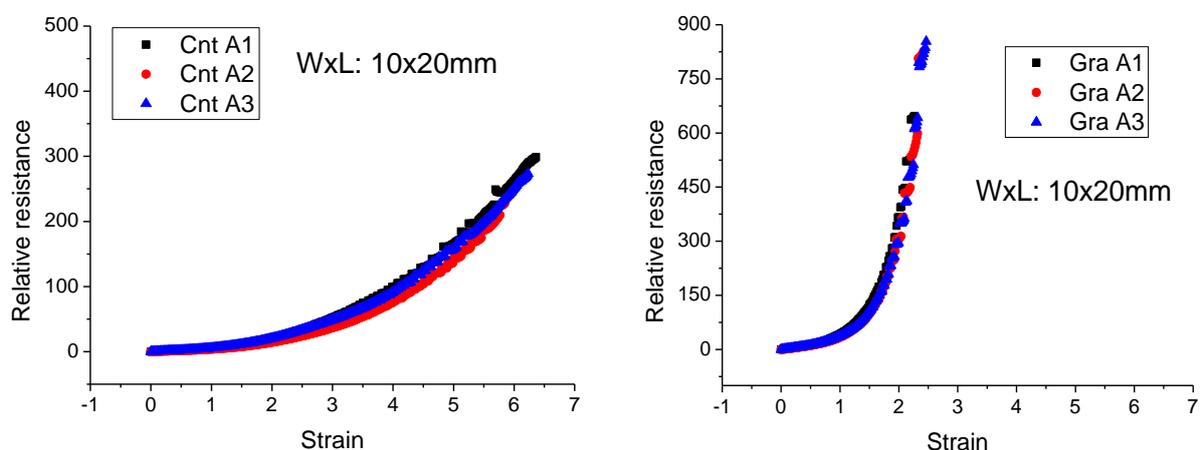


Figure S1. Cont.

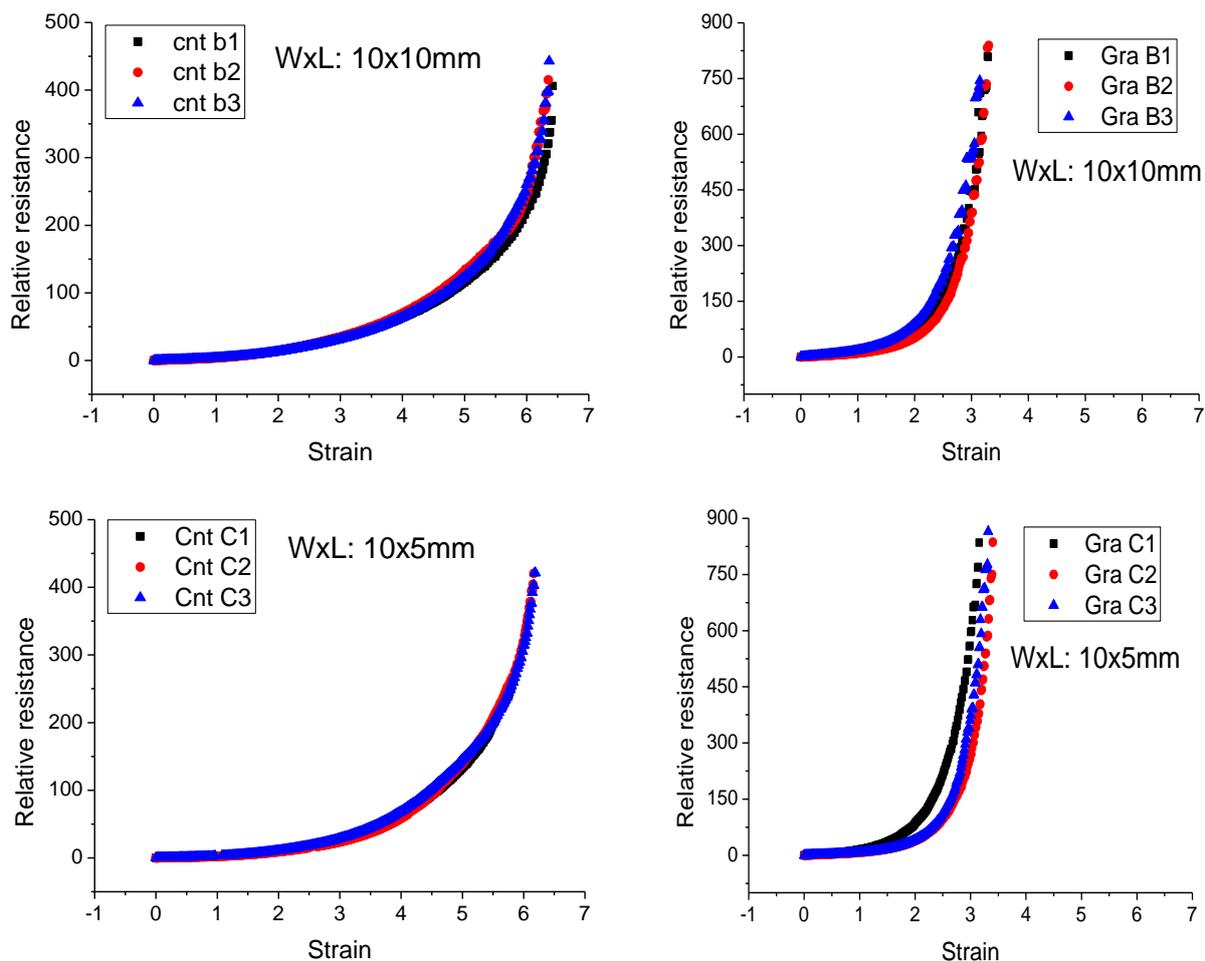


Figure S2. Cross sectional views (a) MWCNT and (b) Graphite films (scale value is 10 μ m).

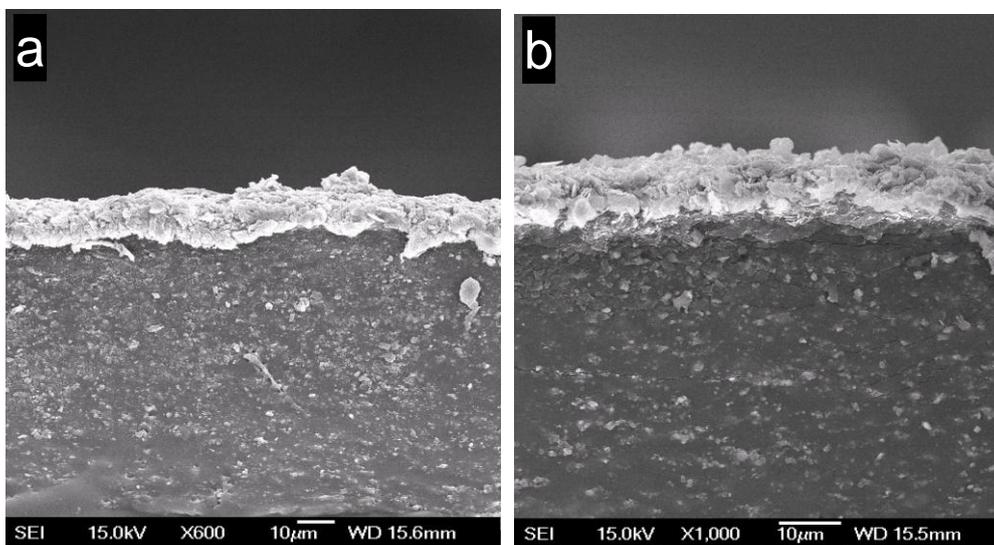


Table S1. Comparison with other reported results.

Sensor/Device [Ref]	Max. Strain (%)	Response Curve Type	Sensitivity	Sensitivity Relation with Strain	Durability and Repeatability	Delay Time (ms)
(a) Random MWCNT (b) Graphite Film sandwich in NR [present work]	620 (Limited by the substrate elongation limit) 246	Close to linear Exponential	5–43 12–346	Linearly Increased with strain Increased with strain	>400 cycles at 150%–500% strain (strain rate $\sim 115\% \text{ s}^{-1}$)	
(a) Aligned SWCNT (b) Random SWCNT film on PDMS [9]	280 <6	Two linear regions -	0.82–0.06 -	 Increased with strain	~3,300 cycles at 200% strain -	14 @ 2.5 Hz -
MWCNT forest/PU composite [10]	300	Close to linear	0.34–1.07	Increased with strain	>100 cycles at 80% strain	-
MWCNT network/PU [15]	403	Close to linear	4–69	Linearly Increased with strain	>1000 cycles at <100% strain	-
PEO-MWCNT composite [6]	<0.4	Close to linear	~6.0–12.5	Increased with strain	-	-
MWCNT Bucky paper sandwich [7]	<0.2	-	2.62 & 38.2 (4 point probe)	Increased with strain	-	-
EVA-Graphite composite [1]	~10	Exponential	~1600 (at 10% strain)	Increased with strain	-	-

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