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Passivation Effect on Subthreshold Transport of Carbon Nanotube Network Transistor.

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We report on passivation effect on subthreshold transport of single walled carbon nanotubes thin film transistors. IV characteristics for subthreshold were sensitively reflected on the interfacial states of nanotube and gate dielectrics. Four different interfaces were fabricated and studied to figure out the role of such interfaces for subthreshold transport. It resulted that interfacial capacitance is a major parameter for IV characteristics. It is also confirmed that passivation is attributed to improving subthreshold slop by reducing interface capacitance.