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Investigation of Schottky Barrier Behaviors between Semiconductive Single-Walled Carbon Nanotubes and Different Metals CHENGUANG LU, Duke University, Durham NC, 27708, JIE LIU, LEI AN, Duke University, Durham NC, 27708 — Single Walled Carbon nanotubes are very promising material for nanoelectronics. Schottky barrier contact are made to SWNT through Al or Ti electrode while the other end of SWNTs are ohmically contacted by Au. Electronic transport through Schottky barriers are studied and competition between tunneling and thermionic emission are control with a back gate voltage. Schottky barrier diodes are made by SWNT and low work function metals for the first time.

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