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Measurement of Gate-Modulated Thermoelectric Power in Si Nanowires JOSHUA SMALL, Dept. of Physics, Columbia University, MENINDER PUREWAL, Dept. of Applied Physics, Columbia University, PHILIP KIM, Dept. of Physics, Columbia University — We have measured the thermoelectric power (TEP) of individual Boron-doped p-type Si nanowires (SiNW). The measured TEP shows strong gate modulation as a function of gate voltage. The p-type SiNW shows positive TEP values at the turn-on regime gate voltage and a peak at the gate voltage in the subthreshold regime. We compare the electric and thermoelectric transport properties of SiNW's to CNT's and discuss their viability as good thermoelectric materials.

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