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**Thermopower of Pentacene Thin-film Transistors** DANIEL LENSKI, ALEXANDRA CURTIN, M.S. FUHRER, University of Maryland, FUHRER NANOTECHNOLOGY GROUP TEAM — The mechanism of conduction in organic thin-film transistors remains poorly understood, though it is generally thought that conduction occurs via hopping in a disordered band tail. Thermopower in principle can give additional information about the density of states  $D(E)$ , and the dependence of the mobility on  $D(E)$ ; such information can be used to discriminate between various conduction mechanisms. We report for the first time measurements of the thermopower of pentacene thin films on  $\text{SiO}_2/\text{Si}$  in a field-effect transistor configuration as a function of charge carrier density and temperature. This work was supported by the Laboratory for Physical Sciences.

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