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Anomalous normal state Nernst effect in electron doped $\mathbf{Pr_{2-x}Ce_xCuO_{4-y}}$ P. LI, H. BALCI, Y. DAGAN, W. YU, R. L. GREENE, Center for Superconductivity Research, Department of Physics, University of Maryland, College Park, MD, 20770 — We present systematic studies of the normal state Nernst effect in thin films of the electron doped superconductor $Pr_{2-x}Ce_xCuO_{4-y}$ (x=0.05, 0.11, 0.13, 0.15, 0.17, 0.19 and 0.21). A large ***positive*** normal state Nernst signal appears at all doping levels with different magnitude and temperature dependence. The off-diagonal Peltier term α_{xy} is derived from the Nernst, resistivity and thermoelectric power and Hall effect, and its dependence on charge carrier density and relaxation time τ will be presented. Our results are compatible with a two band (ambipolar) model. Possible explanations for the temperature dependence of the Nernst effect will be presented. **(This work is supported by NSF Grant DMR-0352735)**

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