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Vortex dynamics and Nernst effect in fluctuating superconductors DANIEL PODOLSKY, University of Toronto, SRINIVAS RAGHU, Stanford University, ASHVIN VISHWANATH, University of California at Berkeley, DAVID HUSE, Princeton University — We present a new method to study the Nernst effect and diamagnetism of an extreme type II superconductor dominated by phase fluctuations. We work directly with vortex variables and our method allows us to tune vortex parameters (eg. core energy and number of vortex species). We find that diamagnetic response and transverse thermoelectric conductivity (α_{xy}) persist well above the Kosterlitz-Thouless transition temperature, and become more pronounced as the vortex core energy is increased. However, they *weaken* as the number of internal vortex states are increased.

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