Density Functional Theory of Thermoelectric Phenomena[1] GIO-
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MILIANO DI VENTRA, University of California - San Diego — We introduce a
non-equilibrium density functional theory of local temperatures and associated heat
currents that is particularly suited for the study of thermoelectric phenomena. This
theory rests on a local temperature field coupled to the energy density operator. We
prove the basic theorems of the theory and discuss the construction of approximate
functionals.

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