Energy and the Variational Principle in New Massive Gravity (NMG) COLIN CUNLIFF, American Institute of Physics (AIP) — New Massive Gravity (NMG)—a particular massive theory of gravity that is fourth order in derivatives of the metric—formulated around a three-dimensional anti-de Sitter (AdS_3) background faces two major problems. In general, higher-derivative Lagrangians generate unwanted boundary terms that spoil the variational principle. Additionally, global charges—including the mass and angular momentum of black holes—diverge in asymptotically AdS_3 spacetimes in the absence of a well-defined renormalization procedure. This talk shows how both problems can be resolved with the addition of boundary terms to the action of new massive gravity.

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