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Ettingshausen effect due to Majorana modes CHANG-YU HOU, UC Riverside and Caltech, KIRILL SHTENGEL, University of California, Riverside, GIL REFAEL, California Institute of Technology, PAUL GOLDBART, Georgia Institute of Technology — Due to the presence of Majorana fermions (zero mode) at the vortex core of topological superconductor, each vortex carries an extra entropy $s_0 = k_B \ln[2]/2$ that is independent of temperature. Utilizing this special property of Majorana fermions, one can show that the edge states appearing at the edge of a topological superconductor can be cooled (heated) due to the motion of the vortices. We will also discuss possible experimental setups to observe this cooling thermoelectric mechanism tied with the extra entropy carried by the vortex.

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