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Abstract:

Electric automobiles are a vital, dynamic, and quickly growing issue that touches on a range of topics, including increased energy demand and consumption, reduced environmental emissions, ensuring the use of renewable energy sources, and so more. Electric vehicles are also becoming more affordable. With the rising amount of research and development being done on electric cars on a worldwide basis, regenerative braking is becoming more and more significant. Using the vehicle's waste heat energy, it is hoped to extend the range of the battery, so providing an additional source of benefit. The goal of this publication is to propose of a Thermoelectric Generator (TEG) model based on an analysis of gas velocity pressure and turbulence kinetic energy at peak temperature to increase the operating range of hybrid electrical vehicles (HEVs) by storing the electrical power output in the battery. According to the regenerative braking system concept, kinetic energy from automobiles that was released into the environment as waste heat energy is converted into electricity using this method.