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## Battery characterization of hybrid car (Article)

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### Abstract

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In this paper, batteries are characterized in order to propose a better monitoring and to maximize the energy outputs of the hybrid car. The characteristics of the batteries are compared between two types of the batteries, which is a lead-acid battery, and lithium-ion polymer battery. A simulation model by software COMSOL™ Multiphysics is conducted to simulate the characteristic of the electrochemistry of the batteries and to calculate the voltage drawn as well as the polarization in order to find the optimum characteristics for the hybrid car. For both batteries, the outcomes are voltage drops, state-of-charge (SOC), discharge rate, and the rate of capability. Simulation results indicate that lithium-ion polymer has a higher specific energy and specific density that hybrid car needed compared to the lead-acid battery. © BEIESP.

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