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# Evaluation of a Reconditioning Procedure for Batteries: Case Study on Li-Ion Batteries

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**Abstract :** Currently, an ascending trend of battery use may be observed, together with an increase of the generated amount of waste. Efforts have been focused on the recycling of batteries; however, extending their lifetime may be a more adequate alternative, and the development of such methods may prove to be more cost efficient as compared to recycling. In this context, this paper presents the analysis of a proposed process for the reconditioning of some lithium-ions batteries. The analysis is performed based on two criteria, the first one referring to the technical aspect of the reconditioning process and the second to the economic aspects. The main technical parameters taken into consideration are the values of capacitance and internal resistance of the lithium-ion batteries. The economic criterion refers to the evaluation of the efficiency of the reconditioning procedure reported to its total cost for the investigated lithium-ion batteries. Based on the cost analysis, one introduced a novel coefficient that correlates the efficiency of the aforementioned process and its corresponding costs. The reconditioning procedure for the lithium-ion batteries proposed in this paper proved to be valid, efficient, and with reasonable costs.

**Keywords :** cost assessment, lithium-ion battery, reconditioning coefficient, reconditioning procedure
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