Paper Title: PedElEc: Towards a Better Understanding of Ageing Processes of E-Bike Batteries

Abstract

It becomes more and more popular to use electric drives using rechargeable batteries as a replacement of traditional gas engines in vehicles and tools, or as a new assistive feature in e-bikes. Due to the high cost of batteries, industry and users demand better understanding of proper usage pattern of these batteries in terms of discharging/charging cycles in order to extend batteries' life-time. In the ongoing research project PedElEc we work towards a better understanding of the ageing processes of e-bike batteries by observing groups of users applying different usage pattern. By doing so, we learn about long-term consequences of different usage pattern and compare them with regard to battery capacity and performance. In the end, we hope to be able to give valid recommendations on how to handle batteries in e-bikes with regard to discharging-charging cycles, acceptable storage of batteries, and preferable load.

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