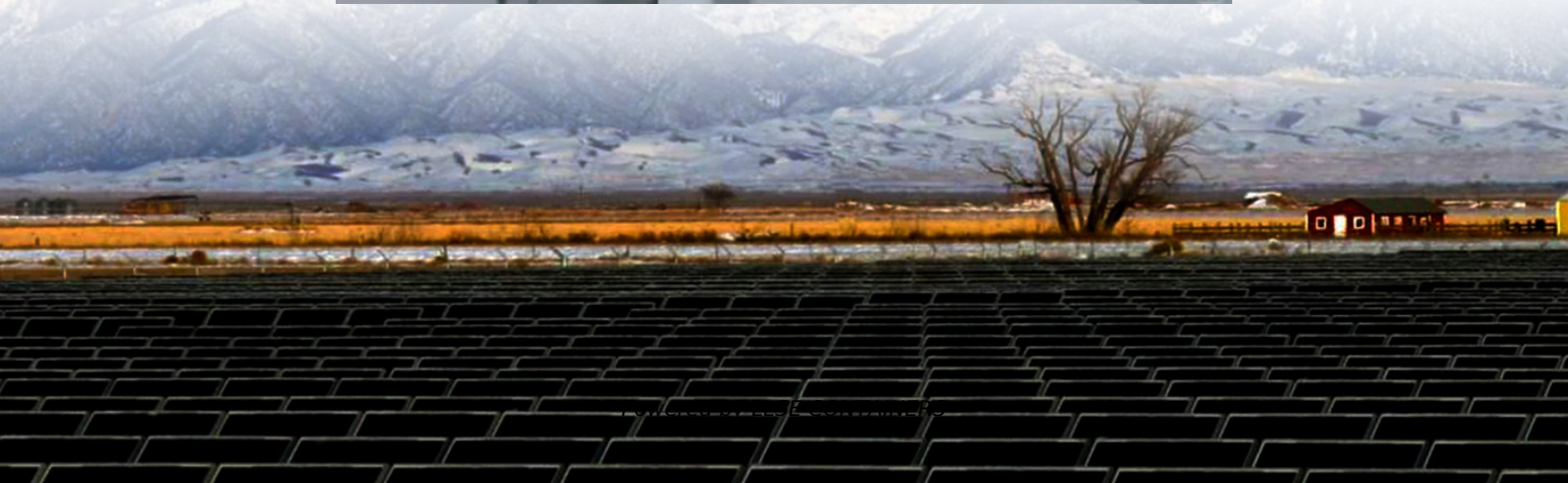


# Charging and discharging data of household energy storage equipment





## Overview

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Are public datasets necessary for battery research?

In battery research, the demand for public datasets to ensure transparent analyses of battery health is growing. Jan Figgner et al. meet this need with an 8-year study of 21 lithium-ion systems in Germany, generating a dataset of 14 billion data points that offers valuable insights into battery longevity for home storage.

How can synthetic home storage system (HSS) battery data be analyzed?

For example, thematic close publications of Dubarry et al. 60, 61 analyse synthetic home storage system (HSS) battery data derived from measured irradiance to develop diagnostic methods using machine learning and incremental capacity analysis. The developed methods show promising results and could be validated with the dataset of this paper.

Are HSS fully charged or fully discharged?

The HSSs are often fully charged or fully discharged. This can be seen by the wider parts of the violin plots at the top and the bottom of the voltage distribution of the S LMO and M NMC systems in Fig. 1d. The S LMO systems have a clear end of charge (EOC) voltage of around 4.15 V.

What is a clear end of charge (EOC) voltage?

The S LMO systems have a clear end of charge (EOC) voltage of around 4.15 V. Their end of discharge (EOD) voltage shows two peaks, as the BMS decreases it over the lifetime to compensate for ageing.



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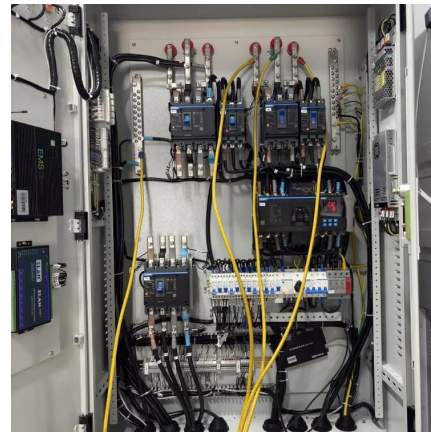


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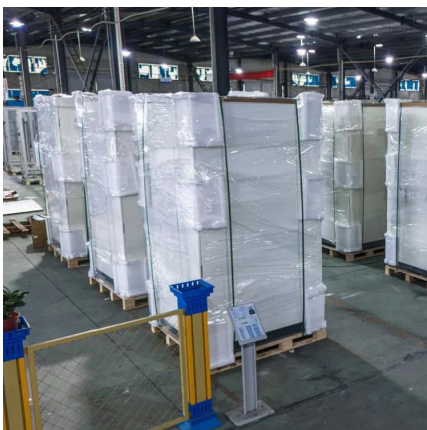
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