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Model-based identification of production tolerances in battery production

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Abstract

Battery technology in combination with carbon-free energy presents a major paradigm shift for the future of the mobility and energy storage sector and already creates an immense demand for large scale battery factories. However, current battery production sites still report considerable scrap rates caused by insufficient process control and a lack of adequate production tolerances, which increase the cost and environmental impact of the battery cells. The present work introduces a methodology which assist in defining model-based production tolerances by considering the impact of varying process parameters on final cell properties in combination with production cost and cell revenue.

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