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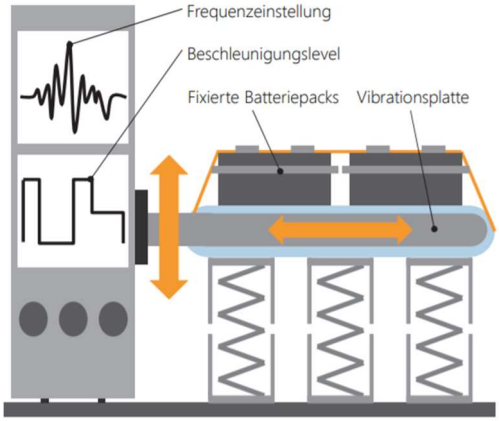
Bachelor-/Master thesis

Vibration test of heavy duty battery module



Initial situation:

In the LiVe project, a novel battery system has been developed with pouch cells and tab cooling for heavy-duty trucks (BEV, HEV, High voltage line connection).
In this context, the second generation of battery modules require experimental validation. Even if not all tests for a homologation according to ECE100R can be performed on a whole battery pack for practical reasons, a test must be set up and performed on a smaller system comprised of one module, one cold plate and one section of the housing. The test conditions and the data logging must be prepared to ensure similar results to a homologation test, and the eventual damage must be assessed. Moreover useful information must be gathered to validate and further improve the design.

Objective of the thesis:

(1) Plan the sensors placement, procure the sensors and connect them to the data logger
(2) Build the fixtures to the shaker and prepare the test
(3) Perform the test, analyze the sensors data and assess the damage on the test specimen
(4) Draw conclusions on how to improve the mechanical design

Requirements:

– Understanding of the underlying technical problems and creativity
– Willingness to work practically at building prototypes
– Understanding of vibration mechanics
– Willingness to learn data logging and analysis
– Interest in electric mobility
– Motivation and effort
– Capability to both work independently and in team

What is offered:

– Comprehensive supervision
– Relevant problems to the industry
– Knowledge in the development of electric powertrains

Have we sparked your interest?

Please send your transcript of records, CV and certificates to the e-mail address below.

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