





# An effect of battery electrode orientation with respect to the external static magnetic field on the MRI signal

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**Introduction**  
The effect of the orientation of the battery electrodes with respect to the external static magnetic field (ESMF) on the MRI signal has been studied. The results show that the orientation of the electrodes can affect the MRI signal, which is important for the design of the battery pack for MRI applications.

**Materials and Methods**  
The study was conducted using a 3T MRI scanner. The battery pack was placed in the scanner and the MRI signal was measured for different orientations of the electrodes. The results are shown in the following figures.

**Results**  
The results show that the orientation of the electrodes can affect the MRI signal. The signal is higher when the electrodes are oriented parallel to the ESMF and lower when they are oriented perpendicular to it.





Poster:

Janzen



**Mechanical**  
for L

Manfred Janzen

The spatial distribution of the components of a battery capacity has often been investigated. Capacity loss often has to be taken into account. Mechanical stress has to be taken into account. Mechanical stress has to be taken into account. Mechanical stress has to be taken into account.

In this work, the effect of mechanical stress on the capacity loss of a battery is investigated. The effect of mechanical stress on the capacity loss of a battery is investigated.

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FORSCHUNGSZENTRUM  
UMWELT

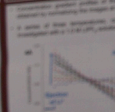






Multi-Temperature NMR  
Precipitation in L  
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Variable Temperature NMR





Temperature NMR Imaging of Polarization and  
Precipitation in Li-Ion Battery Electrolytes  
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Poster:

dt / Schönhoff

Poster: **Electrophoretic NMR Characterization of Lithium Salt-Glyme Mixtures**

Introduction

Results

Electrophoretic NMR

References

Wissens-Zentrum für Energie



Poster: **SKIT**









Poster:

Balbiere



### MRI on gravity driven sedimentation of Lithium-Iron-Phosphate (LFP) battery particles

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KIT - Institute for Energy Efficient and Power Electronics (WZL)

#### Motivation

As every aspect of lithium-ion battery development the process helps along and summarizing. Today's electrodes is a battery with particles in a general case.

#### Goal

Understand the flow of particles during the process.

#### Method

MRI

Simulation

Experiment

Comparison

Conclusion

Summary

References

Contact

Thank you









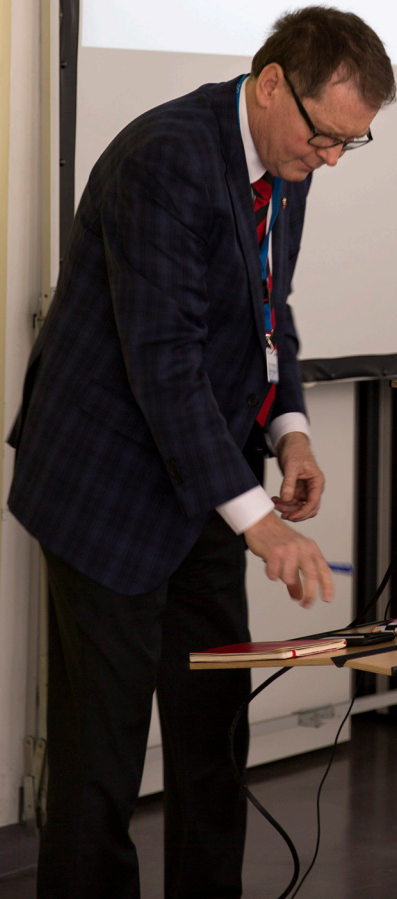
RUNDBAU 06



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# Magnetic Resonance Imaging of Polymer Electrolyte Membrane (PEM) Fuel Cells

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# Magnetic Resonance Imaging Polymer Electrolyte Membrane (PEM) Fuel Cells

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