

INTERPREATION OF GITT MEASUREMENTS FOR PHASE TRANSFORMATION ELECTRODES

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Common electrode materials for lithium ion batteries undergo several reversible phase transformations during the charge/discharge process. This fact is highly important for the determination of transport parameters of lithium ions during (de)intercalation. Common electroanalytical methods (GITT, PITT, EIS, CV, etc.) can only be used properly to analyze the ion transport in solid solution electrodes since they base on Fick's laws. Effects like the dynamic movement of phase boundaries on the ion transport are usually neglected. Therefore, the authors suggest a new approach for the interpretation of GITT-measurements. Theoretical considerations on the Li-ion transport in graphite are compared with experimental findings and show a good agreement.