

Project: Fuel Cell

Experimental characteristics and efficiency determination of hydrogen PEM fuel cell

1. Literature research

- Definition and Overview
 - Basic definition of a fuel cell
 - Central chemistry of fuel cells
 - Fuel cell performance
 - Overview of types of fuel cells
 - Elements of a generic bipolar fuel cell
 - Advantages and disadvantages
- PEM – Fuel Cell
 - Central Chemistry
 - General Process
 - Structure/Parts/Components/Function
- Hydrogen
 - Production Methods
 - Methods of Storage and Transportation

2. Experimental part

- Characteristic Curve of Hydrogen PEM - Fuel Cell
- Voltage regulated characteristics curve
- Determination of energetical efficiency of PEM fuel cell
- Determination of faraday efficiency of PEM fuel cell

3. Literature

- Fuel Cell Systems Explained; Larminie, James; Andrew, Dicks; Wiley-VCH 2013
- Fuel Cells; Behling, Noriko Hikosaka; Elsevier 2012
- Fuel cell science and engineering, materials, processes, systems and technologies, ed. by Stolten, Detlef; Emonts, Bernd; Wiley-VCH 2012
- Encyclopedia of electrochemical Power Sources, ed. by Dyer, Chris K.; Moseley, Patrick T.; Ogumi, Zempachi; Elsevier 2010