

Fuel cells project



Component

École Nationale
Supérieure
d'Électrotechnique
d'Électronique
d'Informatique
d'Hydraulique
et des
Télécommunications

In brief

- > **plugin.odf-inp:PLUGINS_ODF_COURSE_NBHOURS_TXT:** 10.5
- > **Code:** NEGE2C

Presentation

Objectives

- Evaluate two complementary methodologies for experimental characterization of an electrochemical component:
 - Dynamic plot of voltage-current curve.
 - Electrochemical impedance spectroscopy.
- Parameterize a dynamic model of PEM (Proton Exchange Membrane) fuel cell based on the performed experimental characterizations.
- Evaluate the dynamic behavior of the PEM fuel cell providing current ripples generated by the connection of DC/DC static converters (Buck, Boost).

Description

- Electrical and fluidic assembly of an energy conversion manipulation based on an electrolyzer and a fuel cell.
- Study of two electrochemical components characterization methodology: the dynamic tracing of the voltage-current curve and the electrochemical impedance spectroscopy.

- Parametric identification: obtain the model parameters of an electrochemical component from the experimental characterizations.

Useful info

Place

› Toulouse