2023-12-05

Fuel cell laboration

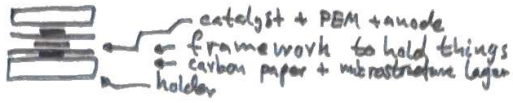
Log

08:00 Handledare: Linnéa Strandberg.

Se PP slides för teori. → värden på saker står där!

Polarization curve: cell voltage (V) vs. current density (mA cm^{-2}).

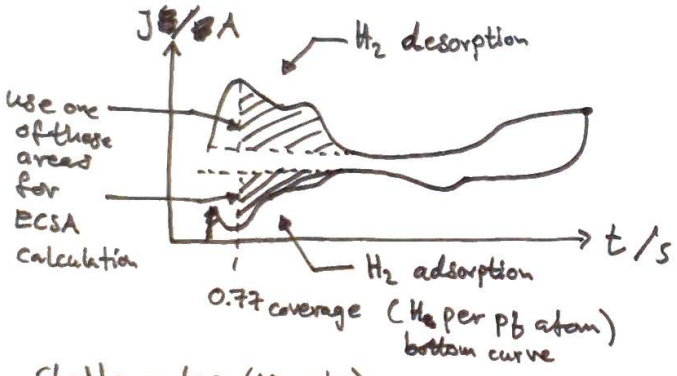
09:30 Built fuel cell sandwich.



Start CV measurement: H_2 anode, Ar for cathode.

P = 1.5 bar, T = 40°C. Waiting for open circuit voltage (OCV) to ↘ to ~100 mV. (we have O_2 in FC from assembly, why OCV is large at the start).

Start of CV measurement (but we will probably get data from another measurement). LSV to reach start voltage, then CV 50 mV s^{-1} between 0.05 V and 1.00 V.

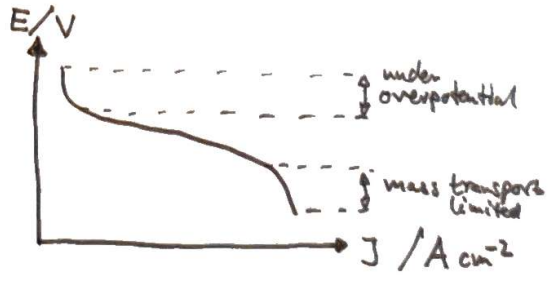


Stable cycles (10 cycles).

09:50 Prepare for polarization curve, T=80°C. O_2 for cathode (air).

OCV ~ 900 mV before start.

Have $A_{FC} = 5.0\ cm^2$ for our FC.



10:00 Started CV, see curve:

We have not activated our FC,

but activation ↗ performance (wetting PEM, changing its structure, ...).

σ_{ion} ↗