

Electrochemical evaluation of catalyst materials for PEM-fuel cell reaction

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Purpose

Electrochemical study of Pt/Carbon support catalyst for anode and cathode reactions of PEM Fuel Cell. * Evaluate impact of different Pt/Carbon catalyst loading (50, 100 & 200 µg/cm²) on anode (Hydrogen Oxidation Reaction) and cathode (Oxygen Reduction Reaction) using Rotating Disk Electrode technique. Methodology



Discussion and Conclusion

- The effect of Pt loadings and the increase in trend of HOR and ORR catalytic activity was studied using RDE analysis.
- Observable increase in limiting current density with increased loading from 50 to 200 μ g/cm².
- From literature review, it is well known that state of art Pt undergoes direct 4 e- pathway[1].

Reference

[1].Levecque, P. et al. The Effect of Platinum Loading and Surface Morphology on Oxygen Reduction Activity. Electrocatalysis 7, 287–296 (2016). https://doi.org/10.1007/s12678-016-0304-3

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