

Finding optimal Nafion content of MEA prepared by ESD method

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Proton exchange membrane fuel cells (PEMFCs) are expected as a next-generation mobile devices and transportation applications thanks to clean by-products and high energy density, but expensive platinum catalyst is an obstacle to commercialization. In our lab, we are trying to break through these problems by using Electrostatic spraying deposition (ESD) method rather than the decal transfer method that is commonly used. It has been found that ESD can provide relatively high performance despite low platinum loading. This poster examined to find the optimal Nafion content of MEA prepared by ESD method. Polarization curves (IVs), cyclic voltammetry (CV) and electrochemical impedance spectroscopy (EIS) are employed to characterize and compare the effects of Nafion content on the performance of PEMFCs.