

**In-situ Spectroscopic Studies of Pt based
Electrocatalytic Materials**

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In-situ XANES, EXAFS and FTIR Studies were conducted on Pt based alloys. Membrane electrode assemblies in operating fuel cell MEAs, arc-melted alloys and ex-situ studies of high surface area catalysts are discussed. CO adsorption data on at least two site types of Pt and on Ru in arc melted alloys as well as on high surface area catalysts will be discussed along with density functional theory calculations.