

عنوان مقاله:

Impedance Spectroscopy Analysis of Glucose Electro- Oxidation on Ni/Polymer Nanocomposite Modified glassy Carbon Electrode

محل انتشار:

چهارمین همایش پیل سوختی (سال: 1389)

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خلاصه مقاله:

The electro-oxidation of glucose on Ni/Polymer Nanocomposite) poly ortho aminophenol +carbon nanotube (modified glassy carbon electrode in a 1M NaOH solution at different concentration of glucose was studied by the method of acimpedance spectroscopy .In low concentration of glucose)<5mM (two semicircles in the first quadrant of a Nyquist diagram were observed corresponding to charge transfer resistance and adsorption of intermediates .The impedance data in high concentration of glucose show different behavior at different applied anodic potential .The influence of the electrode potential on impedance pattern in high concentration of glucose is studied and a mathematical model was put forward to quantitative account for the impedance behavior of glucose oxidation .At potentials higher than 0.545 V/Ag–AgCl, a pseudo inductive behavior is observed but at higher than 0.35 V/Ag– AgCl, impedance patterns terminate in the second and third quadrants .The conditions required for this behavior are delineated with the use of the impedance model

کلمات کلیدی:

Impedance, Equivalent circuit, Glucose, Electrocatalysis, Nickel:

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