

ABSTRACT

A novel trimetallic nanoparticles synthesized from low cost metals gains a great attraction for the synthesis of electrochemical nanosensors due to its large size over mass ration, great electrical conductivity and quantum property. A Cu-Ni-Sr trimetallic nanoparticles are prepared by using hydrothermal technique. The catalytic properties are measured by cyclic voltammetry CV, Linear sweep voltammetry LSV by using potentiostat/Galvanostat. Nafion binder is used for the fabrication of Cu-Ni-Sr/FTO due to its greater binding ability and lower resistance in the electrolyte. There is a linear response range from 1mM to 4mM as the current density varies with the concentration of glucose in the analyte. with the Tafel slope value of 376 mV dec^{-1} for OER, this modified sensing electrode shows a overpotential of 0.9641 V at a current density of 0.001 mA.cm^{-2} in 0.1M NaOH. It was reported as an optimistic sensor for glucose sensing because of its stability. The modified sensing electrode can be utilized for the detection of glucose in the blood samples and in food industry.