EFFECTS OF Ag_2S QUANTUM DOTS DEPOSITION ON THE PHOTOELECTROCHEMICAL PROPERTIES OF CARBON AEROGEL ELECTRODES

Ramses Garcia M.[1], Claudia Alejandra Rodríguez González[1], Juan Francisco Hernandez[1], Imelda Olivas Armendáriz[1]
[1]Universidad Autónoma de Ciudad Juárez, Instituto de Ingeniería y Tecnología, departamento de física y matemáticas, Mexico.

A Sputtering deposition method combined with solid vapor reactions were used for the deposition of Ag_2S quantum dots (QDs) on carbon aerogel (CA) electrode. The chemicophysical properties and elemental composition of the samples were determined. Ag_2S- CA electrode designed showed external quantum efficiency (EQE) of 50 % in a wavelength of 525 nm, a band gap of E_g?1.28 eV, and conductivity of 1.72 S/cm ± 0.1 S/cm. Ag_2S QDs improved the absorption of visible and near infrared light and electric properties of the carbon aerogel electrodes.

Keywords: QDs, carbon aerogel, electrode

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Presenting author's email: al171919@alumnos.uacj.mx