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Structural and optical properties of pulsed electrodeposited Ag-In alloy

T. Mohana Selvi[a], T. Sivaranjani[a], T. A. Revathy[a], V. Narayanan[b] and A. Stephen[a]*

[a]Department of Nuclear Physics, [b]Department of Inorganic Chemistry,

University of Madras, Guindy Campus, Chennai-600 025, India

E-mail: stephen_arum@hotmail.com

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Electrodeposition produces nanoparticles with controlled characteristics namely size, morphology and composition. Electrodeposited silver based alloys find wide application from catalytic to antibacterial research due to its excellent properties. Silver-Indium (Ag-In) alloys were prepared by pulsed electrodeposition technique using different complexing agents. Boric acid was used as an additive for smoother deposition of the sample. The deposition was found to be favoured even at lower applied current density of 10 mA/cm^2. X-Ray diffraction studies (XRD) were performed to confirm the formation of alloy. Thermal stability of the Ag-In samples were analyzed through Thermogravimetric analysis (TGA). Ultraviolet-Visible (UV-Vis) spectroscopy was used to characterize the optical property of prepared samples.

Keywords: Pulsed electrodeposition, silver, indium, Ag-In alloy.