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Morphology and chemical composition of Zn-Co alloy electrodeposits from alkaline solutions MEYSAM HEYDARI GHARAHCHESHMEH, AHMED TOUHAMI, Department of Physics and Astronomy, University of Texas at Brownsville — Zn-Co alloy electrodeposits were obtained from weakly alkaline glycine solutions by using direct current. The influence of current density, electrolyte temperature, electrolyte's Co^{2+} concentration on the surface morphology and chemical composition were investigated by using scanning electron microscope (SEM) and energy dispersive spectroscopy (EDX), respectively. The results showed that increasing temperature, electrolyte's Co^{2+} concentration and current density, increases cobalt content of the coatings. It was also shown that increasing current density, up to 15 mA cm^{-2} , decreases the grain size and further increase in current density increases the grain size of the deposit.

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