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Electrodeposition of Pure and Doped ZnO

A study of the electrodeposition of pure and doped zinc oxide from a basic solution was completed using SEM, EDS, UV-Vis, and XRD analysis. The presence of a highly ordered zinc oxide film was confirmed. The doping of zinc oxide films with 3, 5, and 10 at wt% chromium was documented. Tests were run to insure the incorporation of chromium from solution and not the substrate which also contained chromium. Aluminum was doped into zinc oxide films at 3, 5, 10 and 20 at wt% but its presence could not be determined using these characterization techniques.

Lauren Garten is a senior in ceramic engineering at the Missouri University of Science and Technology. Previously she has worked in energy materials for Dr. Dogan.