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**STRUCTURAL AND MAGNETIC STUDY OF CoCr<sub>2</sub>O<sub>4</sub> THIN FILMS OBTAINED BY EMPLOYING THE SOL-GEL METHOD**

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In this work we made a study about the structural and magnetic properties of cobalt chromite. We obtained samples in a film format and also in chromite nanopowder. Both, the powder and films were fabricated by the sol-gel chemical method, the film were deposited by the spin coating technique followed by an appropriate heat treatment at 500 oC. The used substrate was glass based on silica and we studied the rotating speed parameter during deposition. The initial aim of the work was the study of the influence of rotating speed on the quality of cromite films. The crystallinity of samples was confirmed by diffraction X-ray (XRD). The lattice parameters were determined using the Rietveld method from which we calculate grain size of 8.6 nm. The scanning electron microscopy (SEM) showed granular films with good homogeneity and we observed the dependence of the rotating speed on the quality of the deposited films. The magnetic properties were measured using a vibrating sample magnetometer (VSM). For powder samples we obtained Curie temperature of 94 K, which is a phase transition from ferrimagnetic to paramagnetic. The applied magnetic field during in the characterization of the film was oriented parallel to the plane of the substrate and we observed a high coercivity. The Curie temperature value for the films was 93 K, similar to the powder samples.