

Abstract: In the last years Heusler compounds showed properties that make them suitable materials for spintronic applications. Their magnetic and optical properties are strongly dependent on their structural order, making it an important matter of research. Co_2MnSi can exhibit different types of lattices, i.e. B2 and $L2_1$, while B2 transits to $L2_1$ by the process of annealing. In this work we present a study of optical and magneto-optical properties of Co_2MnSi thin films with different annealing temperatures. Spectroscopic ellipsometry as well as magneto-optical spectroscopy in linear and quadratic configurations were used as experimental techniques. Our goal was to determine whether the magneto-optical measurements are more accurate tools for lattice transitions studies than spectroscopic ellipsometry.