

The diploma thesis is focused on the study of pressure-induced changes in a behavior of RECo<sub>2</sub>-type compounds. HoCo<sub>2</sub> and its substitution of Si instead of Co in Ho(Co<sub>1-x</sub>Si<sub>x</sub>)<sub>2</sub>,  $x = 0,025$  were chosen as a representative compounds from this family of materials. Measurements of electric resistivity, heat capacity, magnetization and AC magnetic susceptibility under ambient pressure showed presence of three magnetic transitions for both samples: the change of the easy magnetization direction at  $T_R \sim 16$  K, the Curie temperature  $T_C \sim 80$  K and the flipping of magnetization of Co magnetic moments into the parallel direction with Ho magnetic moments at  $T_f \sim 125$  K for HoCo<sub>2</sub>. Under hydrostatic pressures up to 3 GPa, the  $T_R$  shifts to higher temperatures whereas  $T_C$  and  $T_f$ , both decrease. This probably occurs due to the weakening of the Co magnetism and the strength of exchange interaction between Ho-Co sublattices. The experiment of muon spin rotation demonstrates a pressure influence to the decay of Co magnetic clusters, which occurs at lower temperatures with increasing pressure. It is evident that the hydrostatic pressure directly influences the exchange interaction between Co-Co.