

This work contains a study of CeRuSn, which undergoes two structural transitions at 290 K and 256 K both connected with large temperature hysteresis. During the transitions the lattice shrinks along the c axis. At low temperatures the compound orders antiferromagnetically below 2.8(1) K. A strong magnetocrystalline anisotropy is caused by very shortened Ce-Ru separations pointing approximately along the c axis. Due to a strong hybridization, two thirds of Cerium atoms are in a non integer valence state.

For the first time synthesized single-crystals of YbPt₂Si₂ a Yb₂Pt₃Si₅ show no magnetic ordering. A maximum, which is visible in the temperature dependences of magnetic susceptibility originate in thermal population of the magnetic Yb³⁺ state.