

We have been studying variations of magnetic properties as a function of hydrogen concentration for large families of UTX compounds, which prove that doping of U intermetallics by interstitial hydrogen leads to stronger magnetic properties. On the other hand, any dilution of uranium sublattice by a non-magnetic element leads to the suppression of magnetism. This was demonstrated e.g. on the case of $U_{1-x}Th_xCoSn$, in which the long-range ferromagnetism vanishes at approx. 60% Th, preserving the same hexagonal structure (ZrNiAl type, space group $P6_2m$) through the whole concentration range. It is intriguing to investigate whether the interaction with H is changed when replacing Th for U, and whether magnetic properties are affected by the H doping in the analogous way as in pure UCoSn, in which it leads to the increase of TC from 82 K to 102 K for UCoSnH_{1.4}. Here we report on the changes of crystal structure and magnetic properties due to hydrogenation of $U_{1-x}Th_xCoSn$ ($x = 0.2, 0.4, 0.6, 0.8, 1$).