

# **Energiedispersive Röntgenbeugungsuntersuchungen an einigen Laves-Phasen unter hohem Druck**

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Energy-dispersive X-ray-studies of the structural properties of some Laves-Phases ( $RCO_2$  with  $R=Pr, Nd, Sm, Co$ ;  $RFe_2$  with  $R=Sc, Ti, Y, Gd, Tb, Dy, Ho$ ;  $RMn_2$  with  $R=Y, Gd, Tb, Dy$ ) were carried out under extreme hydrostatic pressure- and temperature conditions. The compounds with cobalt show very anomalous properties in the pressure range below 10 GPa, which are caused by the Co-moment. The cubic (C15) Laves-Phases undergo (with exception of  $TbFe_2$ ) a pressure-induced phase transition to the hexagonal C14-structure. It was possible by use of temperature-dependent X-ray diffraction measurements under pressure to determine the pressure dependence of the Curie-point of  $YFe_2$ . The Manganese compounds show a very high compressibility in comparison to the other compounds. This is caused by a vanishing Mn-moment in the lower pressure range.