

**Magnetic properties of  $\text{La}(\text{Co}_{1-x}\text{M}_x)_{13}$  Intermetallic Compounds  
with M=Ni or Mn**

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The  $\text{La}(\text{Co}_{1-x}\text{M}_x)_{13}$  compounds with M=Ni or Mn crystallize in a  $\text{NaZn}_{13}$  type structure, for  $x \leq 0.2$ . Magnetic measurements were performed in the temperature range, 4.2-1300K and external fields up to 9T. The Curie temperatures decrease nearly linear from 1290K ( $x=0$ ) up to 740K ( $x=0.2$ ) for M=Mn and 760K ( $x=0.2$ ) for M=Ni. The mean transition metal moments at 4.2K increase slowly from  $1.6 \mu_B/atom$  for  $x=0$  to  $1.7 \mu_B/atom$  for  $x=0.05$  (M=Mn) and  $x=0.08$  for M=Ni and then decrease. Paramagnetic measurements were also performed for compounds with high substitutions at cobalt sites. The magnetic behaviour of transition metals were correlated with the variation of the exchange interactions in the systems.

9.7 cm

13.4 cm

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