

Spontaneous magnetostriction of RCo_4B (R=Y and Ce)

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Abstract: The spontaneous linear magnetostriction at $T=0$ K in YCo_4B is positive along the a axis ($\lambda_a = 1.1 \times 10^{-3}$) and negative along the c axis ($\lambda_c = -2.1 \times 10^{-3}$), although the volume magnetostriction below T_c is negligibly small and below the resolution of the x-ray measurement. In CeCo_4B , however, both λ_a and λ_c are smaller and below about 130 K, a negative volume magnetostriction of the order of 10^{-3} is observed. An anomalous increase of the resistivity is also found at the same temperature range. This anomalous behavior is assumed to be related with the Ce magnetism in CeCo_4B .

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