

The anisotropy of the magnetocaloric effect was studied on DyNiAl single crystal. Our data reveal a strong anisotropy of the magnetocaloric effect. The large effect occurs for field applied along the c-axis whereas the entropy change is small for the perpendicular field direction.

The influence of substitution on the magnetocaloric effect was measured in the  $\text{Gd}(\text{Co}_{1-x}\text{Rh}_x)_2$  compounds (where x was from 0.05 to 0.30) and  $\text{Dy}(\text{Co}_{1-x}\text{Fe}_x)_2$  compounds (where x was from 0.00 to 0.03). The substitution of Co by Rh leads to a decrease of the transition temperature,  $T_c$ , and increase of the maximum entropy change. The  $T_c$  increases but the maximum of entropy change quickly decreases in case of Fe substitution.

The last studied systems were the  $\text{Gd}_{1-x}\text{Tb}_x$  alloys with x in range from 0.00 to 0.40. The influence of the sample shape and orientation was studied. The thin ribbon oriented along the magnetic field gave the highest value of the entropy change. The three measurement techniques were used: the heat capacity measurement, the magnetization measurement and the direct measurement of the temperature change.