; is possible, on the basis of a study
n the presence of strong magnetic
t of $(\partial T_k/\partial P)$ and to compare the
It would directly allow to judge
the description of magnetic trans-
er pressure. Such a comparison is

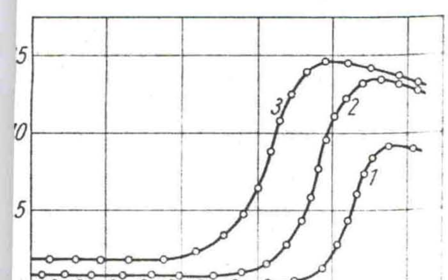
d Samples

talline samples of the $Mn_2Ge_ySb_{1-y}$
, 0.16, and 0.20. Magnetic measure-
s up to 300 kOe in the temperature
technique and sample preparation
ansition temperature with pressure
naly at the phase transition point.
bomb where measurements were
he temperature range 77 to 450 °K.
anometer using methods described

urements

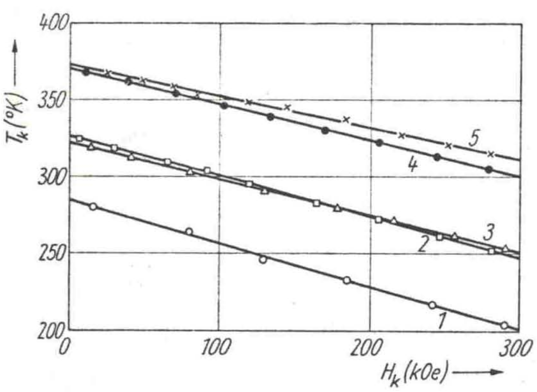
system studied we use only data
16, and 0.20 which we consider to

e of magnetization for samples of
ds of 53, 106, and 212 kOe. At low
y and practically does not depend
e antiferromagnetic state.
observed first into the spiral state
ease in the magnetic field strength
e region. The magnetization values
0 °K, and 14.5 e.m.u./g at 365 °K



2. Temperature dependence of magnetizations
$Mn_2Ge_{0.20}Sb_{0.80}$ samples in magnetic fields of
rent strength. (1) $H = 27$ kOe, (2) $H = 100$ kOe,
and (3) $H = 240$ kOe

Fig. 3. Transition temperature dependence on magnetic field strength for different samples of the system. (1) AF–SP, $y = 0.12$; (2) AF–SP, $y = 0.16$; (3) AF–FM, $y = 0.12$; (4) AF–FM, $y = 0.20$; (5) AF–FM, $y = 0.16$



are close to the magnetization saturation of Mn_2Sb at the same temperatures [4]. Similar dependences are also observed for $Mn_2Ge_{0.12}Sn_{0.88}$ samples, in which both AF–SP and SP–FM consecutive transitions were found with temperature change. For $Mn_2Ge_{0.2}Sb_{0.8}$ samples a different behaviour is observed. Fig. 2 shows the temperature dependence of magnetization measured in one of the samples with the above mentioned composition at different values of magnetic field strength. At low temperatures here too the AF structure is realized, but with temperature increase the transition to the FM structure is observed, but no SP structure is found. With field increase the transition temperature is decreased and the magnetization in the FM state is consistent with data obtained for Mn_2Sb. Fig. 3 is expected to be a kind of generalization of the strong magnetic field effect on the transition temperature, where the $T_k(H_k)$ dependence is shown for different transitions. The dependences 1 and 2 correspond to AF–SP transitions, the remaining ones to AF–FM transitions. Fig. 3 vividly depicts all dependences as linear ones which little differ in their slope. The temperature for a phase transition of first kind must depend not only on magnetic field strength but also on pressure. Our measurements showed that with pressure increase the transition temperature rose both for the AF–FM transition and the SP–FM one. The temperature dependences of the electrical resistivity of $Mn_2Ge_{0.08}Sb_{0.92}$ are shown in Fig. 4. These dependences were obtained at different pressure. As is seen from Fig. 4, with pressure increase the SP–FM transition temperature is shifted into the high-temperature region.

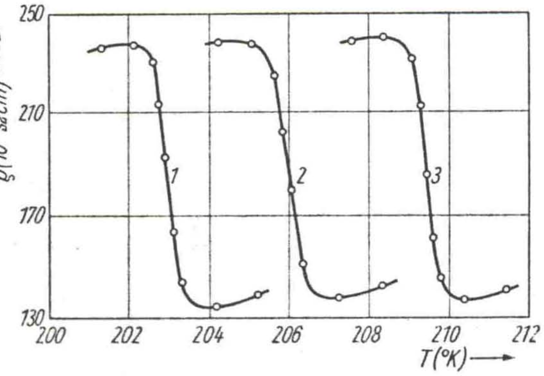


Fig. 4. Pressure influence on the temperature dependence of the electrical resistivity of $Mn_2Ge_{0.08}Sb_{0.92}$. (1) $P = 1.3$ katm, (2) 3 katm, and (3) 6.5 katm