Fig. 2. Pressure dependence of resistivity at 300°K for several Cd₃As₂ samples
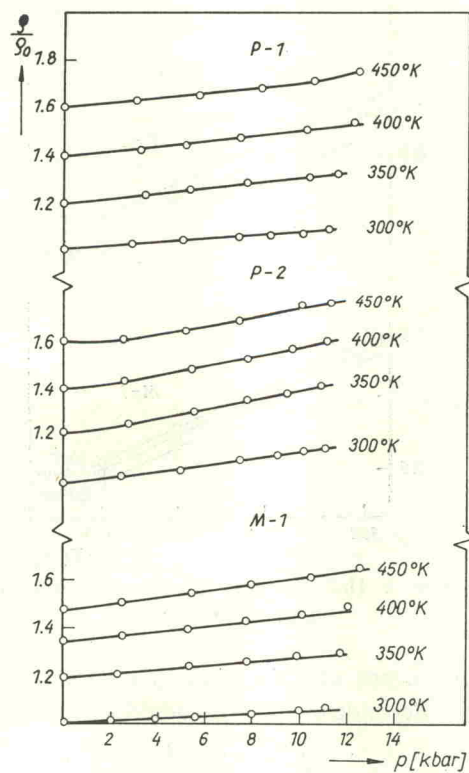

Fig. 3. Pressure dependence of resistivity for three Cd₃As₂ samples at temperatures 300, 350, 400 and 450°K

In the whole investigated pressure and temperature ranges the Hall coefficient is practically constant for all samples except the single crystal sample $M-1$. For this sample the Hall coefficient at 450°K is about 8% less than that at 300°K; this is caused by the increase of intrinsic concentration.

On Fig. 2 the dependence of $\frac{\varrho}{\varrho_0}$ on pressure at room temperature for all samples is shown. The resistivity increases linearly with increasing pressure; the changes of resistivity are higher for samples with smaller electron concentration. The rapid increase of resistivity for sample $P-4$ about 25 kbar is caused by a phase transition [11].

Fig. 3 shows the dependence of $\frac{\varrho}{\varrho_0}$ on pressure at the temperatures 300, 350, 400 and 450°K for three samples of Cd_3As_2. It can be seen, that the character of this dependence is the same for different temperatures.
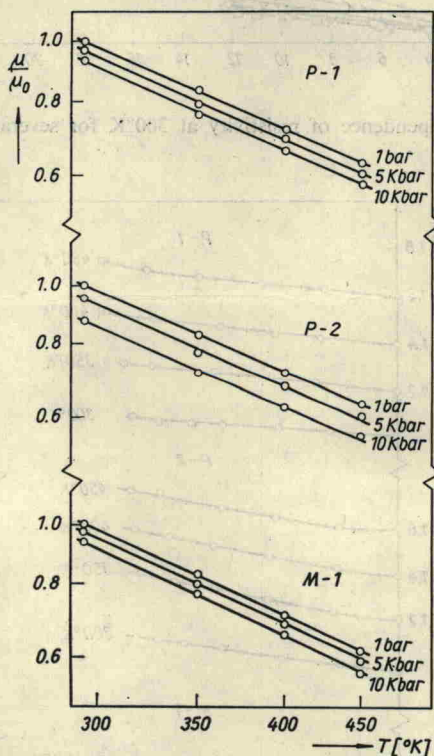

Fig. 4. Temperature dependence of Hall mobility for three Cd_3As_2 samples at pressures 1, 5 000 and 10 000 bar

Fig. 4 shows the dependence of Hall mobility on temperature at the pressures 1, 5000 and 10000 bar. This dependence can be described as:

$$\mu = A \cdot T^{-\alpha}$$

where A depends on pressure and α depends on sample and changes from 1 to 1.2.