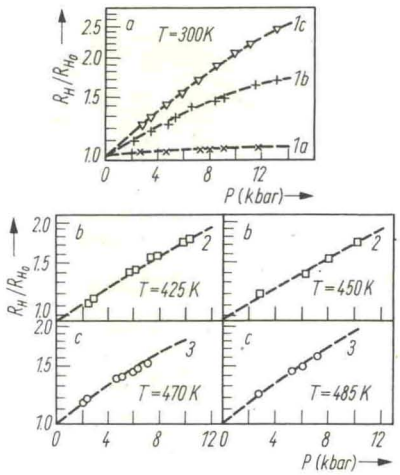

Fig. 2. Pressure dependence of the Hall coefficient at different temperatures for a) x = = 1.2, b) x = 1.35, and c) x = 1.5. The dashed lines represent calculated dependences

statistics, parabolic shape of conduction and valence bands, permanent ionisation of donors (of concentration N_d) and acceptors (of concentration N_a). The values of the hole effective mass m_h^* and the temperature coefficient of the energy gap dE_g/dT were taken from /4/: $m_h^* = m_o$, $dE_g/dT = -3.3 \times 10^{-4}$ eV/K, and they were assumed to be independent of composition and pressure.

The carrier concentrations follow from the electrical neutrality equation of a crystal

$$n + N_a = p + N_d \,. \tag{1}$$

The normalised Hall coefficient R_H/R_{H_o} was calculated from the following formulas:

for n-type samples 1a, 1b, 1c, and 2

$$R_H = -\frac{r}{n\,e} \,, \tag{2}$$

for p-type sample 3

$$R_H = \frac{r}{e}\,\frac{p - nb^2}{(p + nb)^2} \tag{3}$$

with the average and pressure independent value of $b \approx 38$; the scattering factor r was also assumed to be independent of pressure. All other parameters used in the calculations and values of pressure coefficients obtained from the fit are listed in Table 1. It can be seen that the pressure coefficients are approximately equal in the investigated alloys; hence, according to the empirical rule (see, e.g. /6/), it may be expected that the value of the pressure coefficient for the end-point compound Cd_3As_2 is of the same order.

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