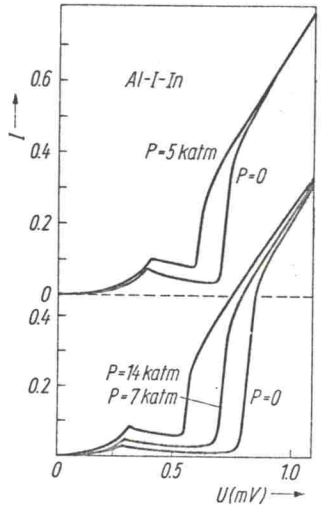

Fig. 2. Current–voltage characteristics of Al–I–In samples at different pressures. $T = (1.17 \pm 0.02)$ °K; normalized units are along the I-axis

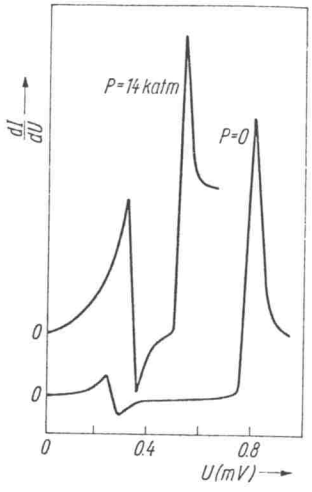

Fig. 3. $\mathrm{d}I/\mathrm{d}U$–U characteristics of Al–I–In samples at different pressures. $T = (1.16 \pm 0.02)$ °K

where the error does not include the inaccuracy in pressure measurement. Such T_c change of In films with pressure excellently coincides with Berman, Brandt, and Ginzburg's measurements [10] on massive indium.

Fig. 2 shows voltage–current characteristics for two Al–I–In samples plotted at different pressures. The energy gap was defined from the maxima of the $(\mathrm{d}I/\mathrm{d}U)$–$U$ characteristics (Fig. 3).

Fig. 4 shows the result of high pressure influence on the energy gap of indium. For comparison the $2\,\Delta(p) = 3.69\,kT_c$ line is drawn which in fact corresponds to the critical temperature change. The gap values obtained by extrapolating $2\Delta(T)$ to $T = 0$ °K are also included in Table 1. From experiments it is found

$$\frac{\mathrm{d}\,2\,\Delta}{\mathrm{d}p} = -\,(1.43 \pm 0.13)\times 10^{-5}\,\frac{\mathrm{meV}}{\mathrm{atm}}\,.$$

The energy gap of In at zero pressure, $2\,\Delta(0.0) = (3.69 \pm 0.04)\,kT_c$, is in good agreement with data obtained from precision measurements of critical field curves [11], where the coefficient defining a deviation from the parabola was found to be

$$a_{\mathrm{In}} = 2\,\pi\,\gamma\,\frac{T_c^2}{H_0^2} = 0.985 \qquad (3)$$

where

$$\gamma = \frac{2}{3}\,\pi^2\,k^2\,N\,. \qquad (4)$$

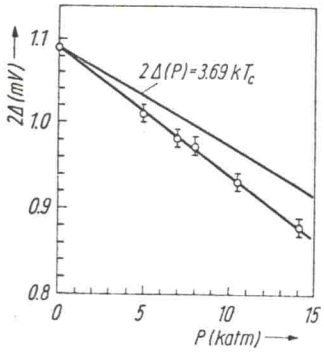

Fig. 4. Change of the superconducting indium energy gap under pressure. ○ experimental points