

(1960) in their work on the Ettinghausen-Nernst coefficient by the relationship:

$$\left(\frac{\partial T}{\partial y}\right) \quad (3)$$

at flowing in the x direction, axis. A temperature gradient and an electric field E_y in the y direction are induced from the potential difference divided by the corresponding length.

arises from the quantization of the energy levels in the magnetic field, H , and their passage through the Fermi level. The de Haas-van Alphen effect is observed in $1/H$ and their period, P ,

$$(4)$$

area of the Fermi surface normal to the direction of the magnetic field.

different methods as applied by Schirber (1966) and is shown in Fig. 4; it illustrates that the results of the pressure measurements are in very good agreement with the results of the resistance measurements of Schirber (1966) used the helium pressure cell. The results of these measurements are shown in Fig. 4.

with that found by Balmain (1966) for pressures transmitted by the helium pressure cell and Schirber themselves used the helium pressure cell (see Fig. 4 b) to check the pressure

variation of the needle cross-sections. They did this using the phase-shift† de Haas-van Alphen technique, which is possible when the pressure can be varied continuously without upsetting the other experimental conditions (in particular, the temperature).

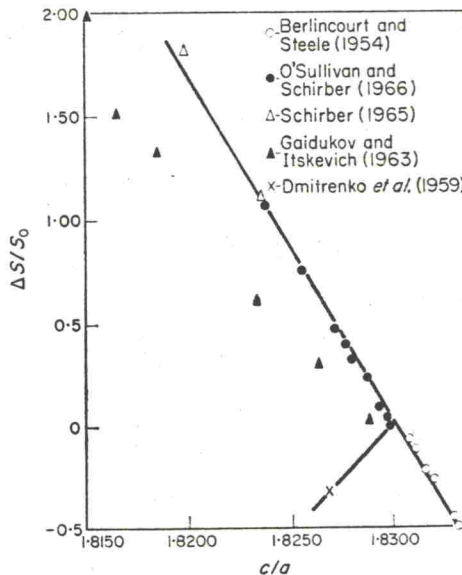


FIG. 3. Change in extremal cross-section for needles in Zn as a function of c/a ratio (After O'Sullivan and Schirber, 1966.)

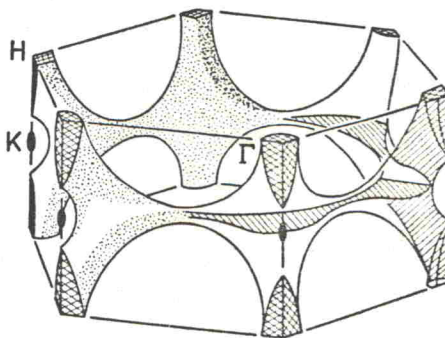


FIG. 4. Part of the Fermi surface of Zn. The "needles" are the black ellipsoids in the middle of the hexagon edges. (From O'Sullivan and Schirber, 1966.)

(b) The results of the pressure measurements form a smooth continuation to smaller values of c/a of the data obtained by Berlincourt and Schirber (1966).

† For a description of this technique, see Section III D5 on noble metals.