It is known that Cd_3As_2 has very similar properties to those of InSb (small energy gap, high electron mobility); moreover the electron effective mass increases with carrier concentration according to Kane's formula [4, 5]. Since Lin-Chung's theoretical calculations (in which the crystal structure of Cd_3As_2 has been taken into account) also show [13] that Cd_3As_2 has a band structure similar to that of III–V compounds, it is reasonable to assume the Kane model for this semiconductor.

Since the Hall coefficient is pressure-independent (in the investigated pressure and temperature ranges) one can assume that Cd_3As_2 has a single conduction band. The rise of resistivity with pressure is caused by the increase of effective mass and hence decrease of electron mobility and increase of resistivity.

The results obtained for Cd_3As_2 are similar to those obtained for InSb with the same electron concentration [12].

Thus, it can be assumed that another minimum of conduction band lies high enough from the first (over 0.4 eV) and does not take part in the transport phenomena.

The possible transfer of carriers from one minimum to the other would take place after using a very high pressure; in this case, however, phase transition occurs [11].

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