

FIG. 3. Hall coefficient R as a function of magnetic field in samples 8B and 7B at 77°K . R is negative for low fields and changes sign with increasing field. The fitted curve (dashed) represents the usual two-carrier expression for R with the two-carrier densities and two mobilities obtained by making the Hall coefficient and conductivity agree at $B=0$ and $B=\infty$. The lack of agreement in the crossover region is due to quantum effects (see text).

For the as-grown samples 7B1 and 8B the hole concentrations at 77°K , determined from the saturation value of R , are much higher and decrease by approximately 20% with pressure from 0 to 9 kbar. In these two samples the ratio $\sigma_p(0)/\sigma_n(0)$ becomes large at quite low pressures, and the analysis of the Appendix becomes inaccurate.

The electron concentration and mobility at 77°K have therefore been obtained only at zero pressure. The results for all three samples at $P=0$ are summarized in Table I.

Figure 7 shows some examples of the Hall coefficients vs magnetic field curves obtained at 4.2°K . For sample 7B at low pressure (0.03

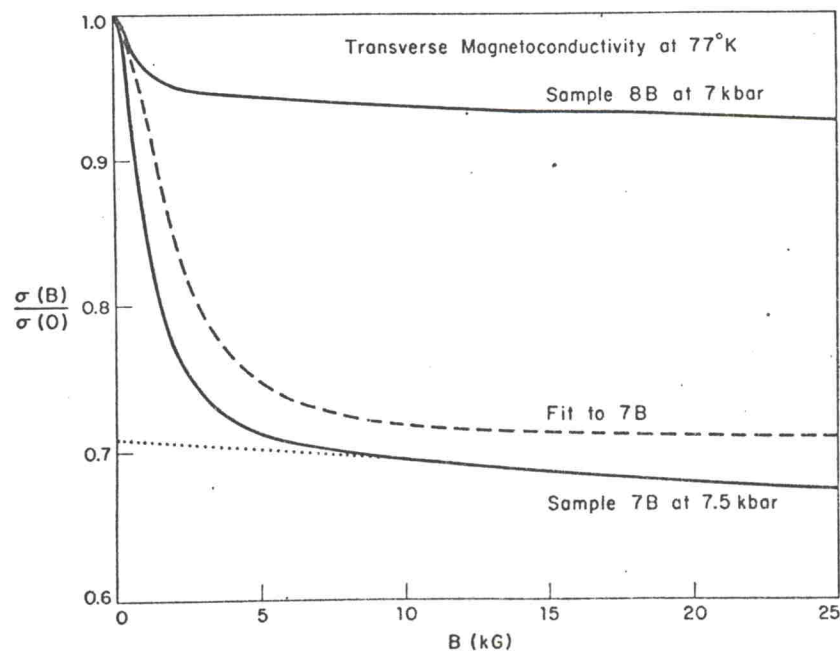


FIG. 4. Transverse magnetoconductivity as a function of magnetic field for samples 7B and 8B at 77°K . The steady decrease in the conductivity at higher fields is believed to be due to geometric effects. (The sample width is approximately one-half the voltage-contact spacing, and about one-fourth of the sample length.) The asymptotic value of $\sigma(\infty)/\sigma(0)$ was found by extrapolating the experimental curve back to zero field (dotted straight line).