there was a linear increase in the measured density with increasing wave number. This density, which was due to light scattering, was extrapolated to the spectral region of sample absorption and was subtracted from the measured density values.

Since a distinct peak was not present in AgBr, it was necessary to find another quantity to characterize the exciton absorption. In Fig. 8 it is seen that the spectra have nearly linear regions on both sides of the exciton shoulder. The wave number at which these two linear sections intersected was used to characterize each spectrum; the intersection for the atmospheric spectrum is shown in the figure. The characteristic intersection may be shown to be independent of sample thickness and of light scattering, as long as the density due to scattering is linearly proportional to the wave number. In Fig. 9 the variation of the characteristic intersection with pressure is shown for several runs. The blue shift was almost 2000 cm^{-1} in 50 kbar, and the rate of the shift decreased at higher pressures. The spectrum of a 1000 Å AgBr coating on Aclar did not change when it was measured repeatedly at atmospheric pressure, indicating that no gross photolytic effects would be expected in taking several spectra at high pressure.

C. Intermediate Region

Since the exciton absorption showed a large blue shift and the edge showed a red shift with pressure, a region of the AgCl and AgBr spectra (region 3 of Fig. 1) existed where there was no pressure-induced shift. Figure 10 shows the effect of pressure upon a 0.0013-cm-thick, unannealed AgCl sheet. Both the red shift of the low-intensity edge and the blue shift at higher energies were observed. The isostatic point occurred at 25 800 cm^{-1}. The atmospheric-pressure spectrum obtained with thin sheet samples in the optical cell was not reproducible and was omitted from Fig. 10. In Fig. 11 the linear shift of the edge with pressure, dE/dP, is plotted for various locations on the 10-kbar spectrum. The graph includes data from both regions 1 and 3 of the AgCl spectrum [see Fig. 1(a)]. The red shift of the low-intensity edge was approximately -9×10^{-4} eV/kbar, in agreement with Slykhouse and Drickamer,[15] and was constant over a wide range of ν_0. The largest measured blue shift of 1.5×10^{-3} eV/kbar may be compared to the shift of the direct exciton peak, 5×10^{-3} eV/kbar.

The effect of pressure upon the intermediate region of a 0.025-cm AgBr sheet sample is shown in Fig. 12. The atmospheric pressure spectrum was reproducible, in contrast to the AgCl data, probably due to the thicker sample load. The isostatic point occurred at 21 700 cm^{-1} and is also shown in Fig. 13, in which dE/dP is plotted for various locations on the 0-kbar spectrum. The red

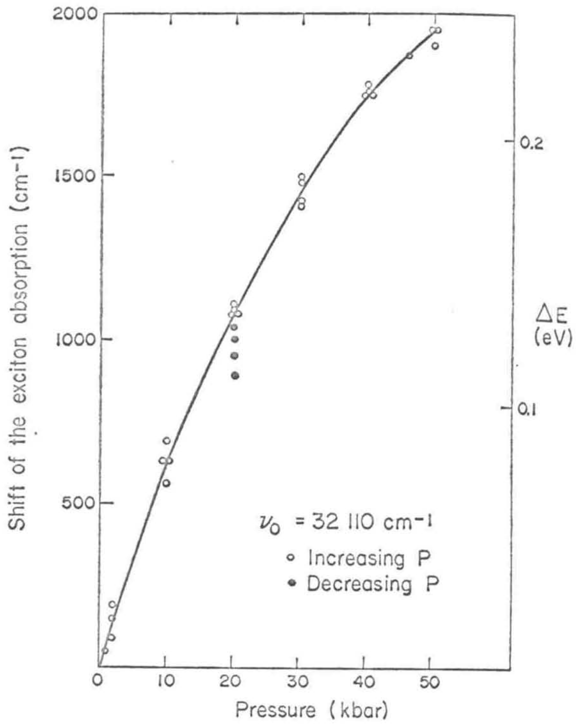

FIG. 9. Pressure dependence of the exciton absorption of AgBr.

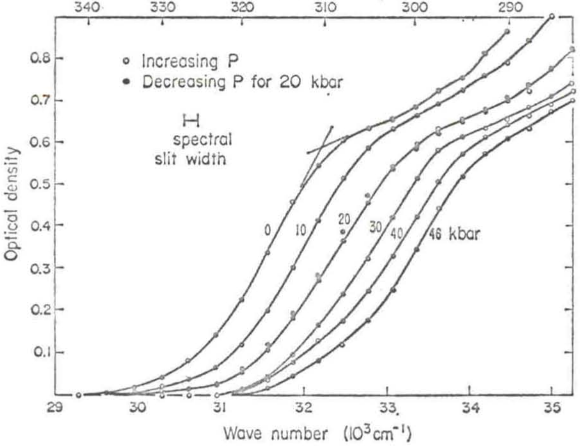

FIG. 8. Exciton absorption of AgBr at various pressures.

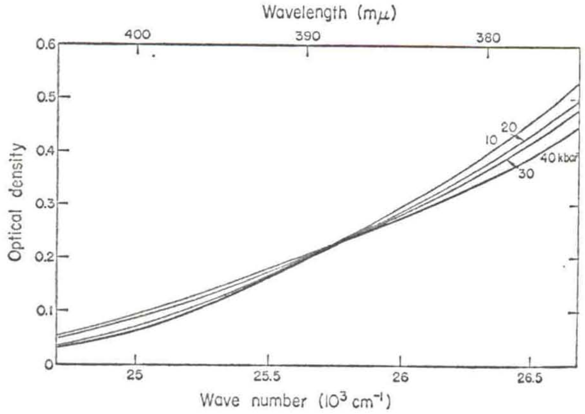

FIG. 10. Intermediate-region spectrum of 0.0013-cm-thick AgCl sheet at various pressures.

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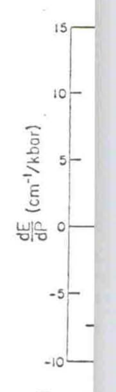

FIG. 1

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[21] C. W.