$$U_s = 1.45\pm0.06 + 1.65\pm0.05U_p - 0.04\pm0.01U_p^2.$$

There is good agreement between the present data and that of Walsh and Rice.[14] Again the data of Cook and Rogers[16] are located toward higher particle velocities, probably for the same reasons discussed previously. However, their points do fit a line which closely parallels the fitted lower line. Like the other two liquids, the extrapolated U_s-U_p line to zero particle velocity intersects the U_s axis at a velocity which is about 60% higher than the measured sound speed. Bridgman[11] found that liquid carbon tetrachloride freezes at about 1 kbar and 25°C which may account for the discrepancy.

Figure 21 is a pressure versus relative volume (P-V/V_0) plot of the data. A simple concave upward curve seems to adequately describe all the points. The lack of precision and scatter of the data prevents establishing a change in slope of the P-V/V_0 curve associated with the break in the linear relationship specified for the U_s-U_p plane. The least squares fitted equation that describes the curve is

$$P = 0.2V/V_0 + 128(V/V_0)^2 + 133(V/V_0)^3.$$

Since the carbon tetrachloride U_s-U_p plot did not exhibit a region of constant shock velocity and the P-V/V_0 curve did not show a transition cusp, it was assumed that a two-wave structure was nonexistent and no two-wave experiments were performed.

In some early experiments[43] on shock induced electrical conduction of carbon tetrachloride, it was found that between 100 and 150 kbar the conductivity was increased sufficiently to short out a charged bare wire pin at the arrival time of the shock wave. Walsh and Rice[14] even earlier reported a change in transparency to visible