we find the value of $a_{36}^{-1}(\partial a_{36}/\partial T)_V = -4.6 \times 10^{-3}$ $(^\circ K)^{-1}$ for the "pure" temperature changes in a_{36}. Thus the "pure" temperature contribution to $(da_{36}/dT)_p$ is nearly an order of magnitude larger than (and of opposite sign from) the "pure" volume contribution.

It was noted above that if the C_{66}^E data is plotted as a function of the reduced temperature $\eta = (T - T_a)/T_a$, then the low temperature data taken at 1 atm and at 4.14 kbar fall on a single curve. The question naturally arises as to whether this "universal" behavior has any physical significance. It is widely accepted[7] that the fundamental anomaly in KDP is the dielectric anomaly, and that the acoustic anomaly is a consequence of the dielectric behavior as described by (3). We have examined the dielectric data and find that neither $\chi_3{}^\sigma$ nor $\chi_3{}^x$ are universal functions of η. In fact the "universal" behavior of C_{66}^E appears to arise as a coincidence of the pressure and temperature dependence of the quantities C_{66}^P, a_{36}, and $\chi_3{}^x(0)$, and we believe that this behavior has no deeper physical meaning.

In summary, by combining our ultrasonic measurements of C_{66}^E at 1 atm and at 4.14 kbar with recent dielectric measurements as a function of temperature and pressure, we have completed the determination of the pressure and temperature dependence of the parameters which govern the soft acoustic behavior of KDP in the paraelectric phase.

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