



FIG. 5. Pressure-temperature diagram of $\alpha_f = 0$ for fluid He^3 .

IV. DISCUSSION

A. DISCUSSION OF He^4 RESULTS

Values of ΔV_m derived from molar volumes of solid and fluid measured by Dugdale and Simon (3), agree within 2 percent with the present determinations at pressures below $300\ kg\ cm^{-2}$ and above $2000\ kg\ cm^{-2}$. At intermediate pressures, however, their values are consistently lower than those reported here. A maximum deviation of -7 percent occurs at $1000\ kg\ cm^{-2}$.

Below $250\ kg\ cm^{-2}$ a plot of the present ΔV_m data in Fig. 2 shows a sharp break in the curve at about $32\ kg\ cm^{-2}$, corresponding to a melting temperature of