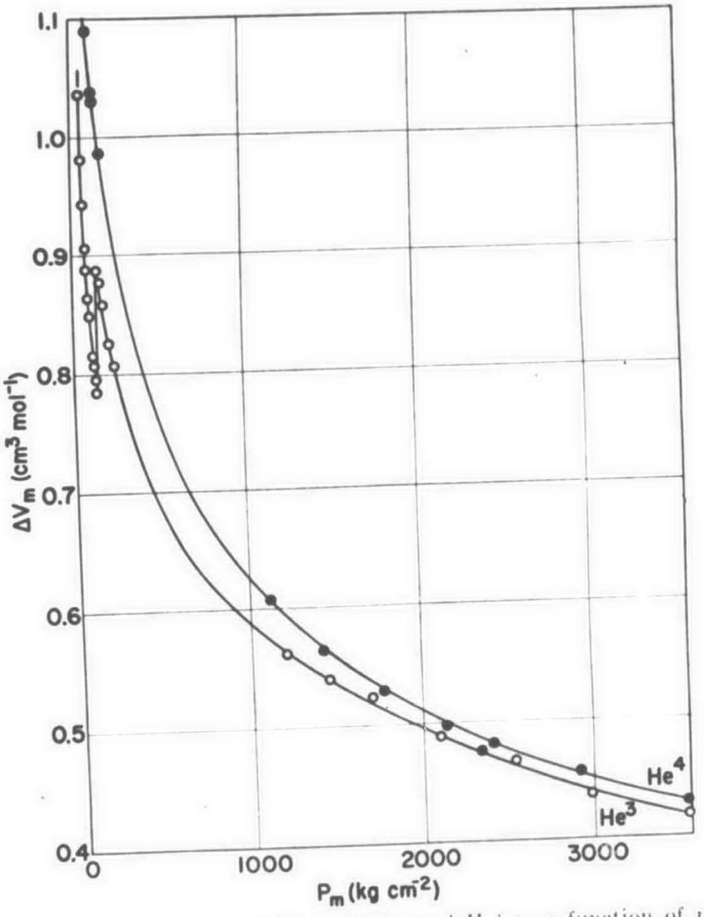

FIG. 1. The volume change on melting of He^3 and He^4 as a function of pressure.

fluid is zero. In Figs. 6 and 7 are plotted the values of $(\partial\alpha_f/\partial T)_P$ and $(\partial\beta_f/\partial P)_T$, respectively, for He^3 along the melting curve. Also shown in Fig. 6 are $(\partial\alpha_f/\partial T)_P$ values for the $\alpha_f = 0$ points of Fig. 5. For He^4 at temperatures below the lambda temperature, a plot of α_f versus T at $P = 25.47$ kg cm^2 is shown in Fig. 8. Figure 9 is the condensed phase diagram for He^3, showing the solid $\alpha \rightarrow$ solid β transition line (extrapolated to $T = 0$) and the $\alpha_f = 0$ locus in the liquid domain. Deviations of the individual experimental points from the curves of Fig. 9 are not visible on the scale.

The experimental and derived melting properties of He^4 are presented at various melting points in Table I. Values of ΔS_m were computed from ΔV_m and