

FIG. 9. Condensed phase diagram for He³.

B. DISCUSSION OF He³ RESULTS

At high pressures the properties of He³ along the melting curve roughly parallel those of He⁴. At low pressures, although He³ does not display superfluidity, there are other unique features which merit detailed discussions.

1. The solid-solid transition

With reference to Fig. 2, the discontinuity in the ΔV_m curve for He³ at ~ 141 kg/cm² is a consequence of a triple point in the melting curve where two types of solid are in equilibrium with the fluid phase. A careful determination of the melting curve showed a slight discontinuity in slope which occurs at 141 kg/cm²