GENS-YS 63-0225

L 18355-63 BDS

ACCESSION NR: AP3003960 S/0057/63/033/007/0867/0871

AUTHOR: Genshaft, Yu.S.

TITLE: Possibility of employing transition pressure scale reference points

SOURCE: Zhurnal tekhnicheskoy fiziki, v.33, no.7, 1963, 867-871

Zh. Tekhn. Fiz.

TOPIC TAGS: pressure hysteresis, transformation pressure, polymorphism

ABSTRACT: The discrepancies between the values of polymorphic transition or transformation pressures determined on different samples and in different laboratories are discussed with particular reference to those for Tl, Cs and Bi as measured by different investigators. A qualitative argument is given indicating that the average of the transition values obtained with increasing and with decreasing temperature or pressure, commonly taken as the "true" value in the presence of hysteresis, is not the thermodynamic equilibrium value, but that the latter lies nearer the high temperature or the low pressure edge of the hysteresis region. The differences between the transition pressures observed for the same first order transition are ascribed to the presence of hysteresis, the magnitude of which depends on sample purity and apparatus configuration. It is suggested that a more reliable calibration

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of the high pressure scale can be obtained by the use of melting points of the pure substances and various physical quantities that depend on pressure, such as compressibility and electrical conductivity. "In conclusion I convey my deep gratitude to Ye.G.Ponyatovskiy for making available his data on the InSb phase diagram, and also to Yu.N.Ryabinin, L.D.Livshits, and V.K.Markov for discussing the work and for valuable suggestions." Orig.art.has: 1 figure and 1 table.

ASSOCIATION: Institut fiziki zemli, Moscow (Geophysical Institute)

SUBMITTED: 19Dec62