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TITLE: Determination of the phase parameters of solid bodies at high pressures by using the method of shifting a piston

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TEXT: The known method by P. W. Bridgman (The Physics of High Pressure. London, 1949; The Compression of 46 Substances to 50,000 kg/cm^2. Proc. Am. Acad. Art. Sci., 1940, v. 74, no. 3) to determine the compressibility of solid bodies at 30,000 kg/cm^2 within the temperature range from 20 to 150°C is explicitly described. On the basis of experimental data, corresponding calculations were made for Pb, AgCl, CsCl, pyrophyllite, lithographic limestone, graphite, BN, Bi, and Tl. By means of this method data on the melting of substances under pressure can be derived from the discontinuity of volume, and the phase diagrams can be studied over wide ranges of temperature and compression. The temperature coefficient of volume expansion (β), depending on pressure, was determined for Pb, AgCl, graphite, BN, Tl, and Bi (Table 7). There are 1 figure and 7 tables.

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Determination of the phase...

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Legend to Table 7: (1) p, kg/cm^2; (2) graphite

(1) p, кГ/см²	β·10⁶							
	Pb	AgCl	(2) графит	BN	Tl	Bi		
							по [1, 2]	
	20—123°C	17—132°C	21—134°C	23—130 °C	22—133 °C	25—100 °C	ϕ	30—75 °C
1	90	28	25	35	92	40	40	40
5000	80	—21	25	20	88	23	32	38
10000	71	—56	21	9	85	22	27	46
15000	58	—74	15	1	80	32	22	62
20000	44	—73	8	—2	74	58	24	86
25000	45	—55	—5	—2	69		22	125
30000	37	—20		3	62			