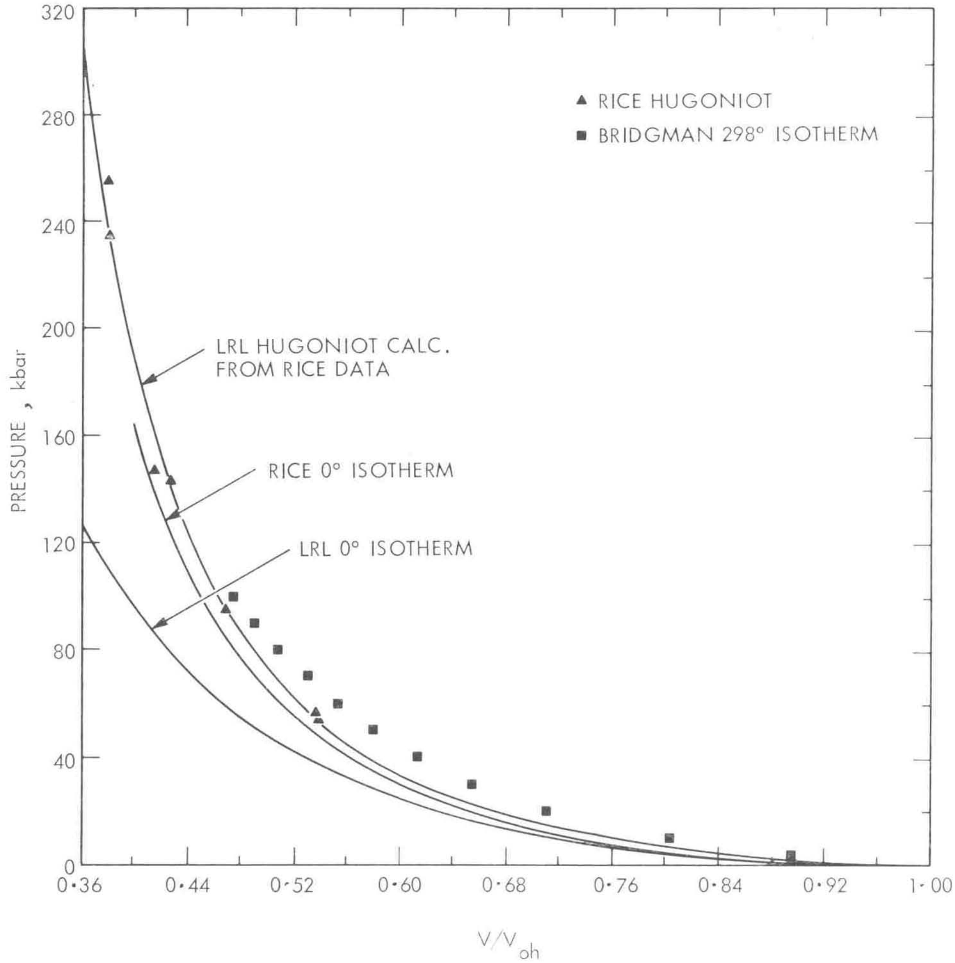

Fig. 4. Comparison of Bridgman isothermal compression data with shock data and calculated isotherms for rubidium.

where the data overlap. Much of this change was found to be due to an error in reduction of the earlier data. Considerable difficulties, however, were encountered in measuring the compressibility of the alkali metals even to 20 kbar. Unfortunately, the pressure-transmitting medium becomes quite viscous, and permanent deformation of his samples took place resulting in nonlinear readings.

Bridgman[9(c)] again reported on compressibility of the alkali metals having extended his range to 45 kbar. Bridgman's 45-kbar measurements were made by observing motion of a piston which compressed a sample approximately $\frac{1}{2}$ in. dia. × $1\frac{1}{2}$ in. long, sheathed in lead. Dilation of the cylinder was obtained by assuming a compressibility of iron. Results from this apparatus gave compressibilities slightly smaller than previously determined. Potassium is reported to have a compression of 0·2764 at 20 kbar in 1934, and is reported in 1937 as 0·268. The change is only a little more than 3 per cent. Unfortunately, it is difficult to evaluate the precision of these measurements, as Bridgman does not give his low-pressure results. He

Table 1. *Calculated properties according to DM theory for lithium*

V/V_0	Temperature (0°K)	Gamma	$P(0)$ ($mb = 10^3$ kbar)	$P(298)$ (mb)	P(HUG) (mb)
0·95823	$3{\cdot}1495 \times 10^2$	1·2453	0·00048	0·00500	0·00515
0·92165	3·3145	1·1935	0·00563	0·01000	0·01054
0·89102	3·4786	1·1537	0·01074	0·01500	0·01591
0·86421	3·6496	1·1225	0·01583	0·02000	0·02131
0·84052	3·8319	1·0976	0·02090	0·02500	0·02673
0·81928	4·0284	1·0773	0·02595	0·03000	0·03220
0·80006	4·2407	1·0605	0·03099	0·03500	0·03771
0·78251	4·4701	1·0465	0·03603	0·04000	0·04327
0·76636	4·7171	1·0340	0·04106	0·04500	0·04888
0·75145	4·9823	1·0231	0·04608	0·05000	0·05455
0·72457	5·5675	1·0041	0·05613	0·06000	0·06606
0·70097	6·2266	0·9876	0·06617	0·07000	0·07781
0·67996	6·9593	0·9725	0·07621	0·08000	0·08980
0·66106	7·7651	0·9584	0·08625	0·09000	0·10204
0·64391	8·6430	0·9452	0·09628	0·10000	0·11452
0·61385	$1{\cdot}0615 \times 10^3$	0·9209	0·11635	0·12000	0·14024
0·58812	1·2870	0·8991	0·13641	0·14000	0·16696
0·56576	1·5408	0·8795	0·15646	0·16000	0·19472
0·54602	1·8226	0·8617	0·17651	0·18000	0·22351
0·52840	2·1326	0·8455	0·19655	0·20000	0·25337

Table 2. *Calculated properties according to DM theory for sodium*

V/V_0	Temperature (0°K)	Gamma	$P(0)$ ($mb = 10^3$ kbar)	$P(298)$ (mb)	P(HUG) (mb)
0·93072	$3{\cdot}3138 \times 10^2$	1·3679	0·00118	0·00500	0·00527
0·87816	3·6374	1·2910	0·00624	0·01000	0·01076
0·63704	3·9838	1·2423	0·01126	0·01500	0·01629
0·80327	4·3731	1·2099	0·01626	0·02000	0·02191
0·77464	4·8149	1·1870	0·02124	0·02500	0·02764
0·74982	5·3142	1·1698	0·02621	0·03000	0·03349
0·72794	5·8740	1·1558	0·03118	0·03500	0·03947
0·70841	6·4958	1·1436	0·03616	0·04000	0·04558
0·69079	7·1806	1·1325	0·04113	0·04500	0·05183
0·67476	7·9286	1·1221	0·04611	0·05000	0·05822
0·64655	9·6163	1·1025	0·05607	0·06000	0·07142
0·62235	$1{\cdot}1560 \times 10^3$	1·0841	0·06605	0·07000	0·08519
0·60124	1·3761	1·0668	0·07603	0·08000	0·09954
0·58255	1·6219	1·0505	0·08602	0·09000	0·11449
0·56584	1·8938	1·0353	0·09601	0·10000	0·13005
0·53700	2·5167	1·0078	0·11600	0·12000	0·16305
0·51280	3·2475	0·9837	0·13599	0·14000	0·19868
0·49204	4·0903	0·9622	0·15599	0·16000	0·23709
0·47393	5·0501	0·9430	0·17599	0·18000	0·27845
0·45792	6·1319	0·9255	0·19599	0·20000	0·52294