*Table 2. Transition pressure ($P_{tr}$, kb) for the* Fm3m ⇄ Pm3m *phase change in the potassium and rubidium halides at* 25°C

| Salt | Bridgman 1945[25] | Daniels, *et al.* 1966[31] | Kennedy and LaMori, 1962[18] | Knof and Maisch, 1963[26] | Larson, 1965[29] | Piermarini and Weir, 1962[4] | Pistorius, 1964[11, 12] | Pistorius and Snyman, 1964[13] | This work | Average Value |
|---|---|---|---|---|---|---|---|---|---|---|
| KF | | | | | | 35 | | 14·6 ± 1·3 | None observed | |
| KCl | 19·7 | | 18·28 ± 0·21 | | 20·0 | | 19·27 ± 0·08 | | 19·55 ± 0·13 | 19·4 ± 0·3 |
| KBr | 18·0 | | 17·88 ± 0·06 | | 18·5 | | 17·43 ± 0·07 | | 17·99 ± 0·28 | 18·0 ± 0·2 |
| KI | 17·8 | | 17·48 ± 0·24 | | | | 17·34 ± 0·05 | | 18·27 ± 0·19 | 17·7 ± 0·3 |
| RbF | | | | 33 | | 12 | | 6·1 | 34·47 ± 0·38 | 33·8 ± 0·8 |
| RbCl | 4·90 | | | | | | 5·28 | | 5·68 ± 0·14 | 5·32 ± 0·24 |
| RbBr | 4·50 | | | | | | 4·20 ± 0·2 | | 4·92 ± 0·06 | 4·57 ± 0·35 |
| RbI | 3·96 | 3·54 | | | | | 3·59 ± 0·16 | | 3·68 ± 0·05 | 3·69 ± 0·11 |

*Table 3. Transition volume ($-\Delta V_{tr}$, cm³/mole) for the* Fm3m → Pm3m *phase change in the potassium and rubidium halides at* 25°C

| Salt | Adams and Davis, 1962[8] | Bridgman, 1945[25] | Genshaft *et al.*, 1967[30] | Jacobs, 1938[6] | Jamison, 1957[7] | Nagasaki and Minomura, 1964[9] | Pistorius and Snyman, 1964[13] | Weir and Piermarini, 1964[5] | This work | Average value |
|---|---|---|---|---|---|---|---|---|---|---|
| KF | | | | | | | 1·0 | 2·49 | None Obs. | |
| KCl | | 4·20 | | | | 3·85 | | 6·85 | 4·11 ± 0·10 | 4·05 ± 0·17 |
| KBr | | 4·55 | | | | | | 8·35 | 4·17 ± 0·11 | 4·36 ± 0·19 |
| KI | | 4·50 | | | 4·50 | | | 11·8 | 4·41 ± 0·15 | 4·47 ± 0·13 |
| RbF | | | | | | | | 3·70 | 1·83 ± 0·29 | |
| RbCl | 6·55 | 6·00 | 6·30 | | | | | 5·76 | 6·95 ± 0·11 | 6·30 ± 0·35 |
| RbBr | | 6·55 | | | | | | 6·60 | 7·43 ± 0·18 | 6·86 ± 0·39 |
| RbI | 9·65 | 7·50 | | 7·9 | | | | 8·26 | 8·10 ± 0·10 | 8·28 ± 0·31 |

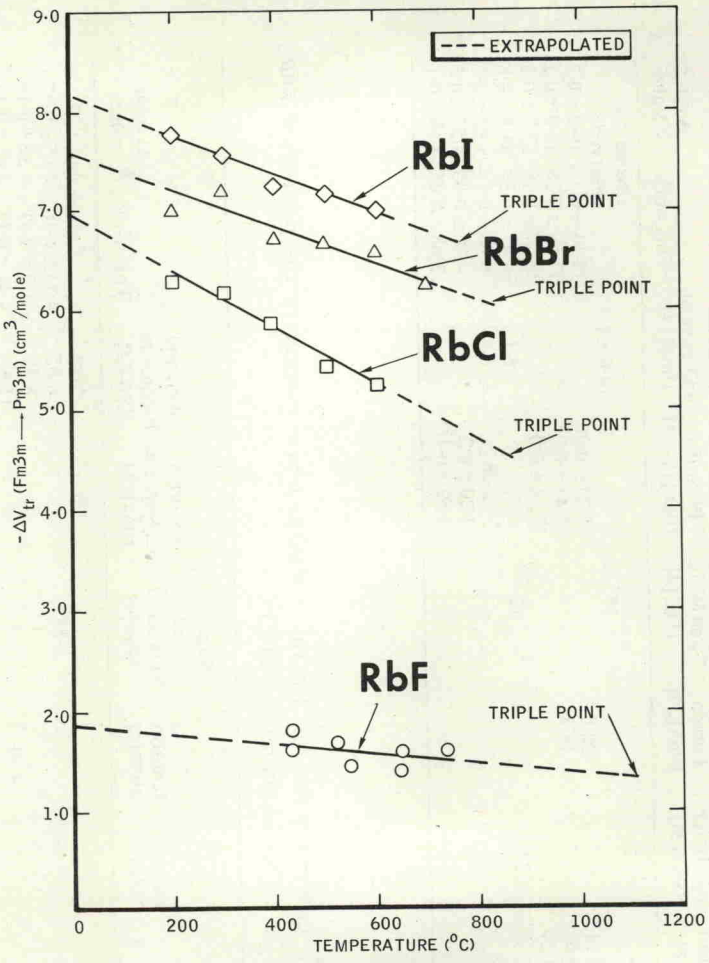


Fig. 4. $\Delta V$(Fm3m → Pm3m) vs. $T$ for the rubidium halides.

perature data by use of equation (2). The pressure-temperature coordinates of the Fm3m ⇄ liquid ⇄ Pm3m triple point for these salts were determined from the intersection of the melting curves of the Fm3m and Pm3m phases at the Fm3m ⇄ Pm3m phase boundary. The melting curves of the Fm3m and Pm3m phases were drawn through the data points of Clark[22] and of Pistorius [23] in order that the intersection of these two curves would fall on the Fm3m ⇄ Pm3m phase boundry obtained in this work. Triple point coordinates obtained for the salts KCl, KBr and KI are shown in Fig. 1; coordinates for the rubidium halides are shown in Fig. 2. These triple point P–T coordinates are compared with the P–T coordinates given by Clark[22] and by Pistorius[23] in Table 4.

*Potassium halides*

Potassium fluoride was examined at pressures up to 45 kb at approx. 100° intervals from room temperature up to 800°C. However, we fail to find the phase transition reported by Weir and Piermarini[5] and by Pistorius and Snyman[13]. Pistorius *et al.* found the volume change of this transition to be small, i.e. 0·5 per cent. The sensitivity of the method used here is more than adequate to detect a phase transition with such a small