

FIG. 3. If cations are shifted in the way described by arrows, the trirutile structure is formed from the Li_2ZrF_6 structure type.

structure type. Amongst the ternary compounds of general formula AB_2X_6 a similar arrangement of (ordered) cations occurs in columbite FeNb_2O_6 . By analogy with the rutile $\rightleftharpoons \alpha\text{-PbO}_2$ transformation,

we might therefore expect the AB_2X_6 compounds discussed above to transform at high enough pressures to a ternary analog of $\alpha\text{-PbO}_2$, possibly with the cations ordered as in FeNb_2O_6 .

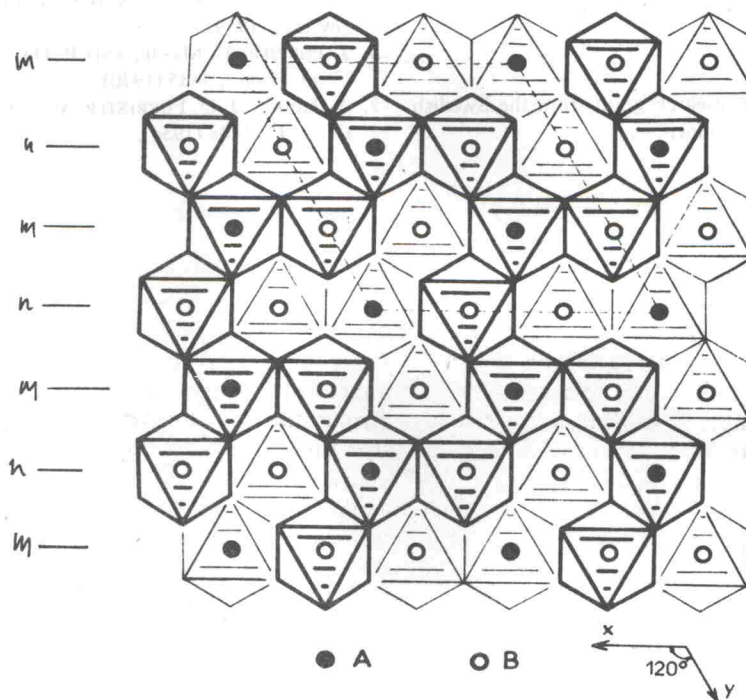


FIG. 4. The Na_2SiF_6 structure type.

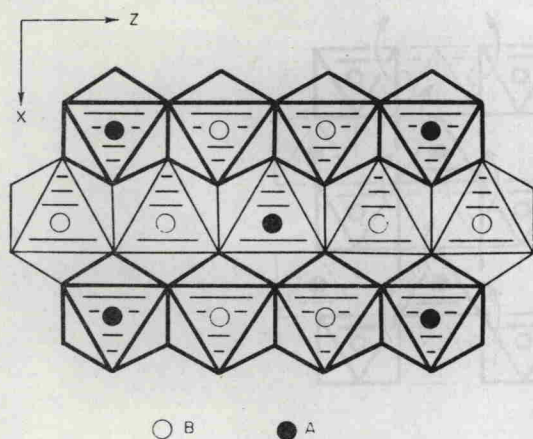


FIG. 5. The trirutile structure type.

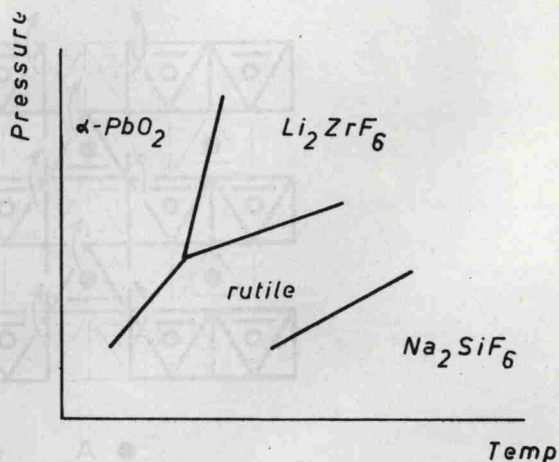
It would be interesting to study the effects of applied pressure in the high temperature experiments referred to above.

In the meantime a tentative pressure-temperature phase diagram is given in Fig. 6. Its construction is based on the observations that

- (a) α - LiSnF_6 transforms to β - Li_2SnF_6 ,
- (b) α - Li_2GeF_6 transforms to β - Li_2GeF_6 at high temperatures and
- (c) rutile transforms to a structure of the α - PbO_2 type at high pressure.

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FIG. 6. Tentative temperature-pressure phase diagram for the various MX_2 structure types discussed.

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