perimental work using Mo $K\alpha$ radiation to reduce the large absorption corrections involved in our work with Cu $K\alpha$ radiation.

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Diffuse scattering of sericite.

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Sericite is a mineral of the mica group, the structure of which is said to be of the muscovite type. As it always occurs in a powder state in nature, only the X-ray powder method has been used for the study of its crystal structure. Recently, however, we have obtained X-ray fibre diagrams of various Japanese sericites by passing the X-rays parallel to thin films formed by drying water suspensions of these minerals. These diagrams correspond to rotation photographs obtained by rotating a single crystal about the normal to the $a\,b$ plane.

With many sericites it was observed that considerable diffuse scattering took place along the innermost row lines (with indices ($11l$), ($02l$)) and other similar row lines with $k \neq 3n$ (where n is integer), while those with $k = 3n$ were relatively sharp. These effects indicate that in sericite, as in many other clay minerals, there is considerable random displacement of layers by multiples of $\frac{1}{3}b$ parallel to the b axis.

Using many Japanese sericites, we have found a wide range of variation in the degree of disorder, as shown in the following scheme:

Nearly ordered
↓
Partially disordered
with random displacements of $\pm\frac{1}{3}b$
↓
Fully disordered
with random displacements of $\pm\frac{1}{3}b$
↓
Partially random layer structure

Details will be reported in the near future.

Notes and News

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