

Lattice aspects of crystal twinning. H. Grimmer,
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Assume that the two individuals forming a twin are related by a mirror reflection parallel to a rational plane $(h\ k\ l)$ or by a 180° rotation with axis parallel to a rational direction $[u\ v\ w]$. Mallard's "law" states that in both cases these elements can be complemented to a pair $(h\ k\ l)$, $[u\ v\ w]$ of rational elements, such that the angle between $[u\ v\ w]$ and the normal to $(h\ k\ l)$, called the obliquity δ , satisfies $\delta \leq 6^\circ$ and that the twin index Σ is a positive integer not larger than 6 [1,2].

Discussing examples, especially of crystals with symmetries higher than orthorhombic, we shall show that this criterion is often satisfied for growth twins originating from a twinned nucleus. Growth twins formed by coalescence of two single crystals can better be described if stricter limits are imposed on δ and less strict ones on Σ . If $(h\ k\ l)$ is interpreted as the habit plane K_1 of a mechanical twin and $[u\ v\ w]$ as η_2 , the observed values of the shear show that the restriction on δ has to be relaxed at least for $\Sigma = 1$ [3].

[1] G. Friedel, (1926). *Leçons de cristallographie*. Reprinted 1964. Paris: Blanchard.

[2] Th. Hahn & H. Klapper, (2003). *Twinning of crystals*, in *International Tables for Crystallography*, Vol. D.

[3] H. Grimmer & K. Kunze, *Twinning by reticular pseudo-merohedry in trigonal, tetragonal and hexagonal crystals* (submitted to Acta Cryst. A).