

*Imm*2

C_{2v}^{20}

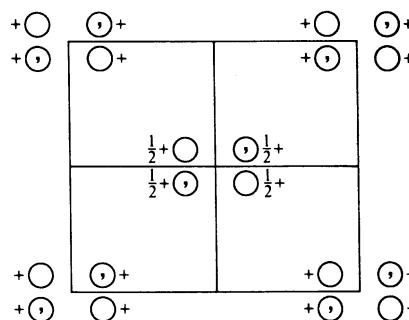
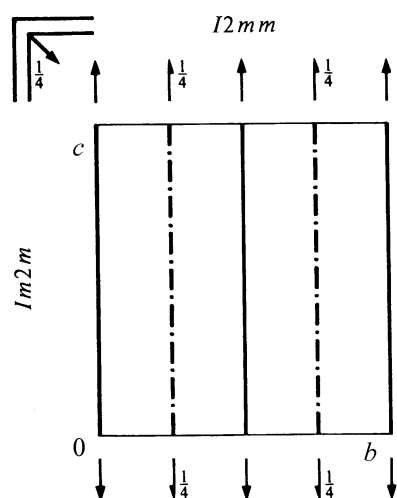
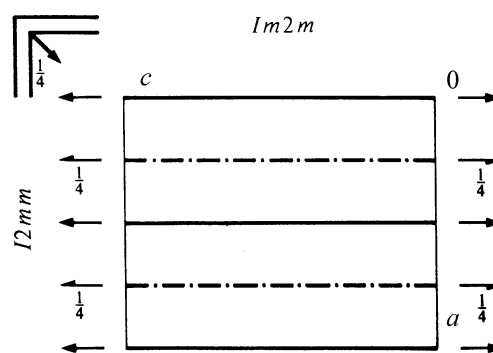
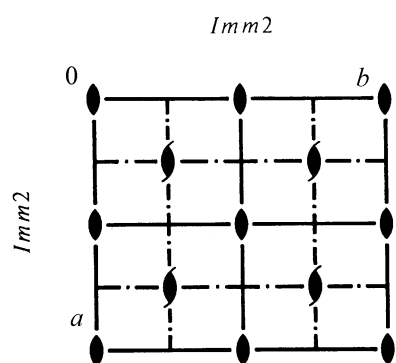
*mm*2

Orthorhombic

No. 44

*Imm*2

Patterson symmetry *Immm*



Origin on *mm*2

Asymmetric unit $0 \leq x \leq \frac{1}{2}; 0 \leq y \leq \frac{1}{2}; 0 \leq z \leq \frac{1}{2}$

Symmetry operations

For $(0,0,0)+$ set

- (1) 1
- (2) $2 \quad 0,0,z$
- (3) $m \quad x,0,z$
- (4) $m \quad 0,y,z$

For $(\frac{1}{2},\frac{1}{2},\frac{1}{2})+$ set

- (1) $t(\frac{1}{2},\frac{1}{2},\frac{1}{2})$
- (2) $2(0,0,\frac{1}{2}) \quad \frac{1}{4},\frac{1}{4},z$
- (3) $n(\frac{1}{2},0,\frac{1}{2}) \quad x,\frac{1}{4},z$
- (4) $n(0,\frac{1}{2},\frac{1}{2}) \quad \frac{1}{4},y,z$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; $t(\frac{1}{2}, \frac{1}{2}, \frac{1}{2})$; (2); (3)

Positions

Multiplicity,
Wyckoff letter,
Site symmetry

Coordinates

$(0,0,0) + (\frac{1}{2}, \frac{1}{2}, \frac{1}{2}) +$

Reflection conditions

General:

8 *e* 1 (1) x, y, z (2) \bar{x}, \bar{y}, z (3) x, \bar{y}, z (4) \bar{x}, y, z

$hkl: h + k + l = 2n$

$0kl: k + l = 2n$

$h0l: h + l = 2n$

$hk0: h + k = 2n$

$h00: h = 2n$

$0k0: k = 2n$

$00l: l = 2n$

Special: no extra conditions

4 *d* $m..$ $0, y, z$ $0, \bar{y}, z$

4 *c* $.m.$ $x, 0, z$ $\bar{x}, 0, z$

2 *b* $mm2$ $0, \frac{1}{2}, z$

2 *a* $mm2$ $0, 0, z$

Symmetry of special projections

Along $[001]$ $c2mm$

$\mathbf{a}' = \mathbf{a}$ $\mathbf{b}' = \mathbf{b}$

Origin at $0, 0, z$

Along $[100]$ $c1m1$

$\mathbf{a}' = \mathbf{b}$ $\mathbf{b}' = \mathbf{c}$

Origin at $x, 0, 0$

Along $[010]$ $c11m$

$\mathbf{a}' = \mathbf{c}$ $\mathbf{b}' = \mathbf{a}$

Origin at $0, y, 0$