

*Aem2*

$C_{2v}^{15}$

*mm2*

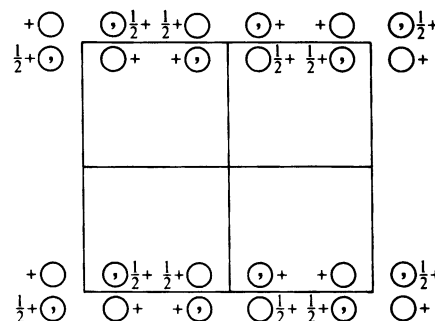
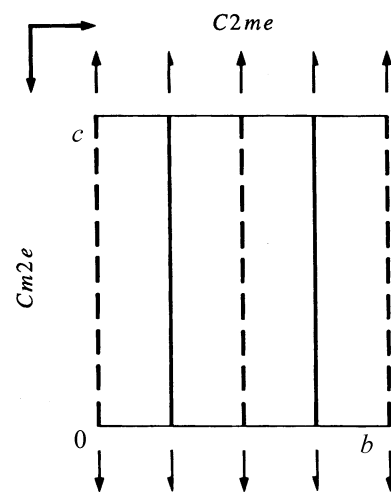
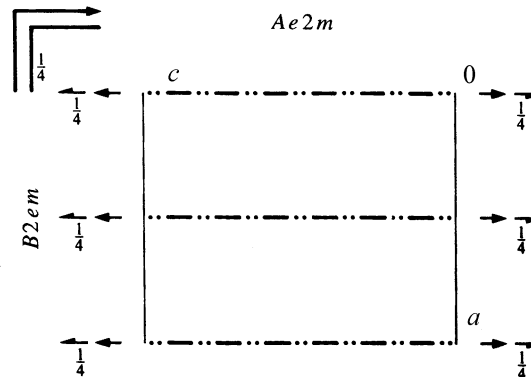
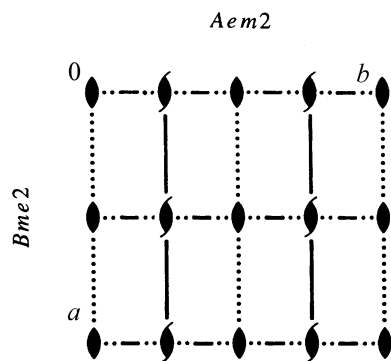
Orthorhombic

No. 39

*Aem2*

Patterson symmetry *Ammm* (*Cmmm*)

Former space-group symbol *Abm2*; cf. Section 2.1.2



Origin on *ec2*

Asymmetric unit  $0 \leq x \leq \frac{1}{2}; 0 \leq y \leq \frac{1}{4}; 0 \leq z \leq 1$

Symmetry operations

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

- (1) 1                      (2)  $2 \ 0,0,z$                       (3)  $m \ x, \frac{1}{4}, z$                       (4)  $b \ 0,y,z$

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

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

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

**Positions**

Multiplicity,  
Wyckoff letter,  
Site symmetry

Coordinates

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

Reflection conditions

General:

8 *d* 1 (1)  $x, y, z$  (2)  $\bar{x}, \bar{y}, z$  (3)  $x, \bar{y} + \frac{1}{2}, z$  (4)  $\bar{x}, y + \frac{1}{2}, z$

$hkl: k + l = 2n$

$0kl: k, l = 2n$

$h0l: l = 2n$

$hk0: k = 2n$

$0k0: k = 2n$

$00l: l = 2n$

Special: as above, plus

4 *c* . *m* .  $x, \frac{1}{4}, z$   $\bar{x}, \frac{3}{4}, z$

no extra conditions

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

$hkl: k = 2n$

4 *a* . . 2  $0, 0, z$   $0, \frac{1}{2}, z$

$hkl: k = 2n$

**Symmetry of special projections**

Along [001]  $p2mm$

$\mathbf{a}' = \mathbf{a}$   $\mathbf{b}' = \frac{1}{2}\mathbf{b}$

Origin at  $0, 0, z$

Along [100]  $p1m1$

$\mathbf{a}' = \frac{1}{2}\mathbf{b}$   $\mathbf{b}' = \frac{1}{2}\mathbf{c}$

Origin at  $x, 0, 0$

Along [010]  $p11m$

$\mathbf{a}' = \frac{1}{2}\mathbf{c}$   $\mathbf{b}' = \mathbf{a}$

Origin at  $0, y, 0$