MSG No. 107.232 I_c4mm [Type IV, tetragonal]

Table 1: Wyckoff site: `4a`, site symmetry: `4mm`

No.	position	mapping
1	$[0,\ 0,\ z]$	`[1,2,3,4,5,6,7,8]`
2	$\left[\frac{1}{2},\ \frac{1}{2},\ z+\frac{1}{2}\right]$	`[9,10,11,12,13,14,15,16]`
3	$\left[0,\ 0,\ z+\frac{1}{2}\right]$	`[17,18,19,20,21,22,23,24]`
4	$\left[\frac{1}{2},\ \frac{1}{2},\ z\right]$	`[25,26,27,28,29,30,31,32]`

Table 2: Wyckoff site: `4b`, site symmetry: `4'mm'`

No.	position	mapping
1	$\left[0,\ \frac{1}{2},\ z\right]$	`[1,4,5,6,26,27,31,32]`
2	$\left[\frac{1}{2},\ 0,\ z\right]$	`[2,3,7,8,25,28,29,30]`
3	$\left[\frac{1}{2},\ 0,\ z+\frac{1}{2}\right]$	`[9,12,13,14,18,19,23,24]`
4	$\left[0,\ \frac{1}{2},\ z+\frac{1}{2}\right]$	`[10,11,15,16,17,20,21,22]`

Table 3: Wyckoff site: `8c`, site symmetry: `2.mm`

No.	position	mapping
1	$\left[\frac{1}{4},\ \frac{1}{4},\ z\right]$	`[1,8,28,31]`
2	$\left[\frac{3}{4},\ \frac{1}{4},\ z\right]$	`[2,5,27,30]`
3	$\left[\frac{1}{4},\ \frac{3}{4},\ z\right]$	`[3,6,26,29]`
4	$\left[\frac{3}{4},\ \frac{3}{4},\ z\right]$	`[4,7,25,32]`
5	$\left[\frac{3}{4},\ \frac{3}{4},\ z+\frac{1}{2}\right]$	`[9,16,20,23]`
6	$\left[\frac{1}{4},\ \frac{3}{4},\ z+\frac{1}{2}\right]$	`[10,13,19,22]`
7	$\left[\frac{3}{4},\ \frac{1}{4},\ z+\frac{1}{2}\right]$	`[11,14,18,21]`
8	$\left[\frac{1}{4},\ \frac{1}{4},\ z+\frac{1}{2}\right]$	`[12,15,17,24]`

Table 4: Wyckoff site: `16d`, site symmetry: `.m.`

No.	position	mapping
1	$[0,\ y,\ z]$	`[1,5]`
2	$[-y,\ 0,\ z]$	`[2,7]`
3	$[y,\ 0,\ z]$	`[3,8]`
4	$[0,\ -y,\ z]$	`[4,6]`
5	$\left[\frac{1}{2},\ y+\frac{1}{2},\ z+\frac{1}{2}\right]$	`[9,13]`
6	$\left[\frac{1}{2}-y,\ \frac{1}{2},\ z+\frac{1}{2}\right]$	`[10,15]`
7	$\left[y+\frac{1}{2},\ \frac{1}{2},\ z+\frac{1}{2}\right]$	`[11,16]`
8	$\left[\frac{1}{2},\ \frac{1}{2}-y,\ z+\frac{1}{2}\right]$	`[12,14]`
9	$\left[0,\ y,\ z+\frac{1}{2}\right]$	`[17,21]`

continued ...

Table 4

No.	position	mapping
10	$\left[-y,\, 0,\, z+\frac{1}{2}\right]$	`[18,23]`
11	$\left[y,\, 0,\, z+\frac{1}{2}\right]$	`[19,24]`
12	$\left[0,\, -y,\, z+\frac{1}{2}\right]$	`[20,22]`
13	$\left[\frac{1}{2},\, y+\frac{1}{2},\, z\right]$	`[25,29]`
14	$\left[\frac{1}{2}-y,\, \frac{1}{2},\, z\right]$	`[26,31]`
15	$\left[y+\frac{1}{2},\, \frac{1}{2},\, z\right]$	`[27,32]`
16	$\left[\frac{1}{2},\, \frac{1}{2}-y,\, z\right]$	`[28,30]`

Table 5: Wyckoff site: `16e`, site symmetry: `..m`

No.	position	mapping
1	$[x,\, x,\, z]$	`[1,8]`
2	$[-x,\, x,\, z]$	`[2,5]`
3	$[x,\, -x,\, z]$	`[3,6]`
4	$[-x,\, -x,\, z]$	`[4,7]`
5	$\left[x+\frac{1}{2},\, x+\frac{1}{2},\, z+\frac{1}{2}\right]$	`[9,16]`
6	$\left[\frac{1}{2}-x,\, x+\frac{1}{2},\, z+\frac{1}{2}\right]$	`[10,13]`
7	$\left[x+\frac{1}{2},\, \frac{1}{2}-x,\, z+\frac{1}{2}\right]$	`[11,14]`
8	$\left[\frac{1}{2}-x,\, \frac{1}{2}-x,\, z+\frac{1}{2}\right]$	`[12,15]`
9	$\left[x,\, x,\, z+\frac{1}{2}\right]$	`[17,24]`
10	$\left[-x,\, x,\, z+\frac{1}{2}\right]$	`[18,21]`
11	$\left[x,\, -x,\, z+\frac{1}{2}\right]$	`[19,22]`
12	$\left[-x,\, -x,\, z+\frac{1}{2}\right]$	`[20,23]`
13	$\left[x+\frac{1}{2},\, x+\frac{1}{2},\, z\right]$	`[25,32]`
14	$\left[\frac{1}{2}-x,\, x+\frac{1}{2},\, z\right]$	`[26,29]`
15	$\left[x+\frac{1}{2},\, \frac{1}{2}-x,\, z\right]$	`[27,30]`
16	$\left[\frac{1}{2}-x,\, \frac{1}{2}-x,\, z\right]$	`[28,31]`

Table 6: Wyckoff site: `16f`, site symmetry: `..m'`

No.	position	mapping
1	$\left[x,\, x+\frac{1}{2},\, z\right]$	`[1,32]`
2	$\left[\frac{1}{2}-x,\, x,\, z\right]$	`[2,29]`
3	$\left[x+\frac{1}{2},\, -x,\, z\right]$	`[3,30]`
4	$\left[-x,\, \frac{1}{2}-x,\, z\right]$	`[4,31]`
5	$\left[-x,\, x+\frac{1}{2},\, z\right]$	`[5,26]`
6	$\left[x,\, \frac{1}{2}-x,\, z\right]$	`[6,27]`
7	$\left[\frac{1}{2}-x,\, -x,\, z\right]$	`[7,28]`
8	$\left[x+\frac{1}{2},\, x,\, z\right]$	`[8,25]`
9	$\left[x+\frac{1}{2},\, x,\, z+\frac{1}{2}\right]$	`[9,24]`
10	$\left[-x,\, x+\frac{1}{2},\, z+\frac{1}{2}\right]$	`[10,21]`
11	$\left[x,\, \frac{1}{2}-x,\, z+\frac{1}{2}\right]$	`[11,22]`

continued ...

Table 6

No.	position	mapping
12	$\left[\frac{1}{2}-x,\ -x,\ z+\frac{1}{2}\right]$	[12,23]
13	$\left[\frac{1}{2}-x,\ x,\ z+\frac{1}{2}\right]$	[13,18]
14	$\left[x+\frac{1}{2},\ -x,\ z+\frac{1}{2}\right]$	[14,19]
15	$\left[-x,\ \frac{1}{2}-x,\ z+\frac{1}{2}\right]$	[15,20]
16	$\left[x,\ x+\frac{1}{2},\ z+\frac{1}{2}\right]$	[16,17]

Table 7: Wyckoff site: 32g, site symmetry: 1

No.	position	mapping
1	$[x,\ y,\ z]$	[1]
2	$[-y,\ x,\ z]$	[2]
3	$[y,\ -x,\ z]$	[3]
4	$[-x,\ -y,\ z]$	[4]
5	$[-x,\ y,\ z]$	[5]
6	$[x,\ -y,\ z]$	[6]
7	$[-y,\ -x,\ z]$	[7]
8	$[y,\ x,\ z]$	[8]
9	$\left[x+\frac{1}{2},\ y+\frac{1}{2},\ z+\frac{1}{2}\right]$	[9]
10	$\left[\frac{1}{2}-y,\ x+\frac{1}{2},\ z+\frac{1}{2}\right]$	[10]
11	$\left[y+\frac{1}{2},\ \frac{1}{2}-x,\ z+\frac{1}{2}\right]$	[11]
12	$\left[\frac{1}{2}-x,\ \frac{1}{2}-y,\ z+\frac{1}{2}\right]$	[12]
13	$\left[\frac{1}{2}-x,\ y+\frac{1}{2},\ z+\frac{1}{2}\right]$	[13]
14	$\left[x+\frac{1}{2},\ \frac{1}{2}-y,\ z+\frac{1}{2}\right]$	[14]
15	$\left[\frac{1}{2}-y,\ \frac{1}{2}-x,\ z+\frac{1}{2}\right]$	[15]
16	$\left[y+\frac{1}{2},\ x+\frac{1}{2},\ z+\frac{1}{2}\right]$	[16]
17	$\left[x,\ y,\ z+\frac{1}{2}\right]$	[17]
18	$\left[-y,\ x,\ z+\frac{1}{2}\right]$	[18]
19	$\left[y,\ -x,\ z+\frac{1}{2}\right]$	[19]
20	$\left[-x,\ -y,\ z+\frac{1}{2}\right]$	[20]
21	$\left[-x,\ y,\ z+\frac{1}{2}\right]$	[21]
22	$\left[x,\ -y,\ z+\frac{1}{2}\right]$	[22]
23	$\left[-y,\ -x,\ z+\frac{1}{2}\right]$	[23]
24	$\left[y,\ x,\ z+\frac{1}{2}\right]$	[24]
25	$\left[x+\frac{1}{2},\ y+\frac{1}{2},\ z\right]$	[25]
26	$\left[\frac{1}{2}-y,\ x+\frac{1}{2},\ z\right]$	[26]
27	$\left[y+\frac{1}{2},\ \frac{1}{2}-x,\ z\right]$	[27]
28	$\left[\frac{1}{2}-x,\ \frac{1}{2}-y,\ z\right]$	[28]
29	$\left[\frac{1}{2}-x,\ y+\frac{1}{2},\ z\right]$	[29]
30	$\left[x+\frac{1}{2},\ \frac{1}{2}-y,\ z\right]$	[30]
31	$\left[\frac{1}{2}-y,\ \frac{1}{2}-x,\ z\right]$	[31]
32	$\left[y+\frac{1}{2},\ x+\frac{1}{2},\ z\right]$	[32]