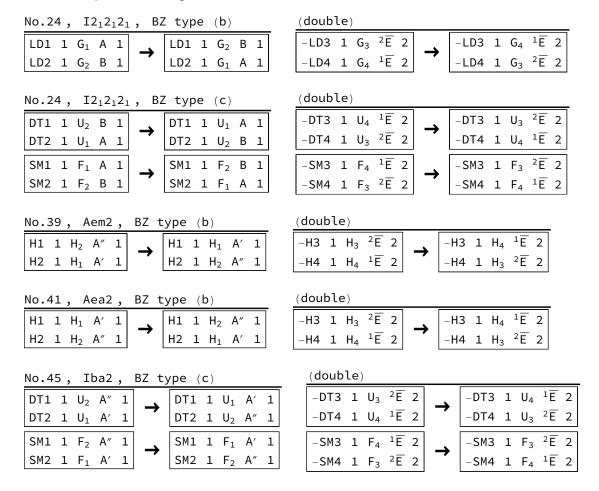# Changes of `showKrepBCStoBC`

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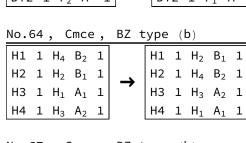
When SpaceGroupIrep≤v1.0.4, there was a bug that the same LGIR label may give different LGIR matrices in certain cases. This case may occur for the H k-line of OrthBase lattice or the G, F, and U k-lines of OrthBody lattice. For example, the following two statements should give the same LGIR's, but they gave different LGIR's when SpaceGroupIrep≤v1.0.4.

```
showLGIrepTab[39, "H", "abcOrBasVec"->{a->2, b->3, c->4}, "rotmat"->False]
showLGIrepTab[39, "H", "abcOrBasVec"->{a->3, b->2, c->4}, "rotmat"->False]
```

The list of changes of `showKrepBCStoBC` are shown below.

No.24 , I$2_1 2_1 2_1$, BZ type (b)

| LD1 1 G_1 A 1 |
| LD2 1 G_2 B 1 |

➔

| LD1 1 G_2 B 1 |
| LD2 1 G_1 A 1 |

(double)

| –LD3 1 G_3 $^2\overline{E}$ 2 |
| –LD4 1 G_4 $^1\overline{E}$ 2 |

➔

| –LD3 1 G_4 $^1\overline{E}$ 2 |
| –LD4 1 G_3 $^2\overline{E}$ 2 |

No.24 , I$2_1 2_1 2_1$, BZ type (c)

| DT1 1 U_2 B 1 |
| DT2 1 U_1 A 1 |

➔

| DT1 1 U_1 A 1 |
| DT2 1 U_2 B 1 |

| SM1 1 F_1 A 1 |
| SM2 1 F_2 B 1 |

➔

| SM1 1 F_2 B 1 |
| SM2 1 F_1 A 1 |

(double)

| –DT3 1 U_4 $^1\overline{E}$ 2 |
| –DT4 1 U_3 $^2\overline{E}$ 2 |

➔

| –DT3 1 U_3 $^2\overline{E}$ 2 |
| –DT4 1 U_4 $^1\overline{E}$ 2 |

| –SM3 1 F_4 $^1\overline{E}$ 2 |
| –SM4 1 F_3 $^2\overline{E}$ 2 |

➔

| –SM3 1 F_3 $^2\overline{E}$ 2 |
| –SM4 1 F_4 $^1\overline{E}$ 2 |

No.39 , Aem2 , BZ type (b)

| H1 1 H_2 A″ 1 |
| H2 1 H_1 A′ 1 |

➔

| H1 1 H_1 A′ 1 |
| H2 1 H_2 A″ 1 |

(double)

| –H3 1 H_3 $^2\overline{E}$ 2 |
| –H4 1 H_4 $^1\overline{E}$ 2 |

➔

| –H3 1 H_4 $^1\overline{E}$ 2 |
| –H4 1 H_3 $^2\overline{E}$ 2 |

No.41 , Aea2 , BZ type (b)

| H1 1 H_1 A′ 1 |
| H2 1 H_2 A″ 1 |

➔

| H1 1 H_2 A″ 1 |
| H2 1 H_1 A′ 1 |

(double)

| –H3 1 H_3 $^2\overline{E}$ 2 |
| –H4 1 H_4 $^1\overline{E}$ 2 |

➔

| –H3 1 H_4 $^1\overline{E}$ 2 |
| –H4 1 H_3 $^2\overline{E}$ 2 |

No.45 , Iba2 , BZ type (c)

| DT1 1 U_2 A″ 1 |
| DT2 1 U_1 A′ 1 |

➔

| DT1 1 U_1 A′ 1 |
| DT2 1 U_2 A″ 1 |

| SM1 1 F_2 A″ 1 |
| SM2 1 F_1 A′ 1 |

➔

| SM1 1 F_1 A′ 1 |
| SM2 1 F_2 A″ 1 |

(double)

| –DT3 1 U_3 $^2\overline{E}$ 2 |
| –DT4 1 U_4 $^1\overline{E}$ 2 |

➔

| –DT3 1 U_4 $^1\overline{E}$ 2 |
| –DT4 1 U_3 $^2\overline{E}$ 2 |

| –SM3 1 F_4 $^1\overline{E}$ 2 |
| –SM4 1 F_3 $^2\overline{E}$ 2 |

➔

| –SM3 1 F_3 $^2\overline{E}$ 2 |
| –SM4 1 F_4 $^1\overline{E}$ 2 |

No.46 , Ima2 , BZ type (b)

LD1	1	G_3	A_2	x
LD2	1	G_1	A_1	x
LD3	1	G_4	B_2	x
LD4	1	G_2	B_1	x

➡

LD1	1	G_1	A_1	x
LD2	1	G_3	A_2	x
LD3	1	G_2	B_1	x
LD4	1	G_4	B_2	x

No.46 , Ima2 , BZ type (c)

DT1	1	F_1	A'	1
DT2	1	F_2	A''	1

➡

DT1	1	F_2	A''	1
DT2	1	F_1	A'	1

(double)

−DT3	1	F_4	$^1\overline{E}$	2
−DT4	1	F_3	$^2\overline{E}$	2

➡

−DT3	1	F_3	$^2\overline{E}$	2
−DT4	1	F_4	$^1\overline{E}$	2

No.64 , Cmce , BZ type (b)

H1	1	H_4	B_2	1
H2	1	H_2	B_1	1
H3	1	H_1	A_1	1
H4	1	H_3	A_2	1

➡

H1	1	H_2	B_1	1
H2	1	H_4	B_2	1
H3	1	H_3	A_2	1
H4	1	H_1	A_1	1

No.67 , Cmme , BZ type (b)

H1	1	H_1	A_1	1
H2	1	H_3	A_2	1
H3	1	H_4	B_2	1
H4	1	H_2	B_1	1

➡

H1	1	H_3	A_2	1
H2	1	H_1	A_1	1
H3	1	H_2	B_1	1
H4	1	H_4	B_2	1

v

No.68 , Ccce , BZ type (b)

H1	1	H_3	A_2	1
H2	1	H_1	A_1	1
H3	1	H_2	B_1	1
H4	1	H_4	B_2	1

➡

H1	1	H_1	A_1	1
H2	1	H_3	A_2	1
H3	1	H_4	B_2	1
H4	1	H_2	B_1	1

No.72 , Ibam , BZ type (c)

DT1	1	U_3	A_2	1
DT2	1	U_1	A_1	1
DT3	1	U_4	B_2	1
DT4	1	U_2	B_1	1

➡

DT1	1	U_1	A_1	1
DT2	1	U_3	A_2	1
DT3	1	U_2	B_1	1
DT4	1	U_4	B_2	1

SM1	1	F_3	A_2	1
SM2	1	F_1	A_1	1
SM3	1	F_2	B_1	1
SM4	1	F_4	B_2	1

➡

SM1	1	F_1	A_1	1
SM2	1	F_3	A_2	1
SM3	1	F_4	B_2	1
SM4	1	F_2	B_1	1

No.73 , Ibca , BZ type (b)

LD1	1	G_3	A_2	1
LD2	1	G_1	A_1	1
LD3	1	G_2	B_1	1
LD4	1	G_4	B_2	1

➡

LD1	1	G_4	B_2	1
LD2	1	G_2	B_1	1
LD3	1	G_1	A_1	1
LD4	1	G_3	A_2	1

No.73 , Ibca , BZ type (c)

DT1	1	U_4	B_2	1
DT2	1	U_2	B_1	1
DT3	1	U_3	A_2	1
DT4	1	U_1	A_1	1

$\rightarrow$

DT1	1	U_3	A_2	1
DT2	1	U_1	A_1	1
DT3	1	U_4	B_2	1
DT4	1	U_2	B_1	1

SM1	1	F_3	A_2	1
SM2	1	F_1	A_1	1
SM3	1	F_2	B_1	1
SM4	1	F_4	B_2	1

$\rightarrow$

SM1	1	F_4	B_2	1
SM2	1	F_2	B_1	1
SM3	1	F_1	A_1	1
SM4	1	F_3	A_2	1

No.74 , Imma , BZ type (b)

LD1	1	G_1	A_1	1
LD2	1	G_3	A_2	1
LD3	1	G_4	B_2	1
LD4	1	G_2	B_1	1

$\rightarrow$

LD1	1	G_2	B_1	1
LD2	1	G_4	B_2	1
LD3	1	G_3	A_2	1
LD4	1	G_1	A_1	1

No.74 , Imma , BZ type (c)

DT1	1	U_2	B_1	1
DT2	1	U_4	B_2	1
DT3	1	U_1	A_1	1
DT4	1	U_3	A_2	1

$\rightarrow$

DT1	1	U_3	A_2	1
DT2	1	U_1	A_1	1
DT3	1	U_4	B_2	1
DT4	1	U_2	B_1	1

SM1	1	F_1	A_1	1
SM2	1	F_3	A_2	1
SM3	1	F_4	B_2	1
SM4	1	F_2	B_1	1

$\rightarrow$

SM1	1	F_4	B_2	1
SM2	1	F_2	B_1	1
SM3	1	F_1	A_1	1
SM4	1	F_3	A_2	1