

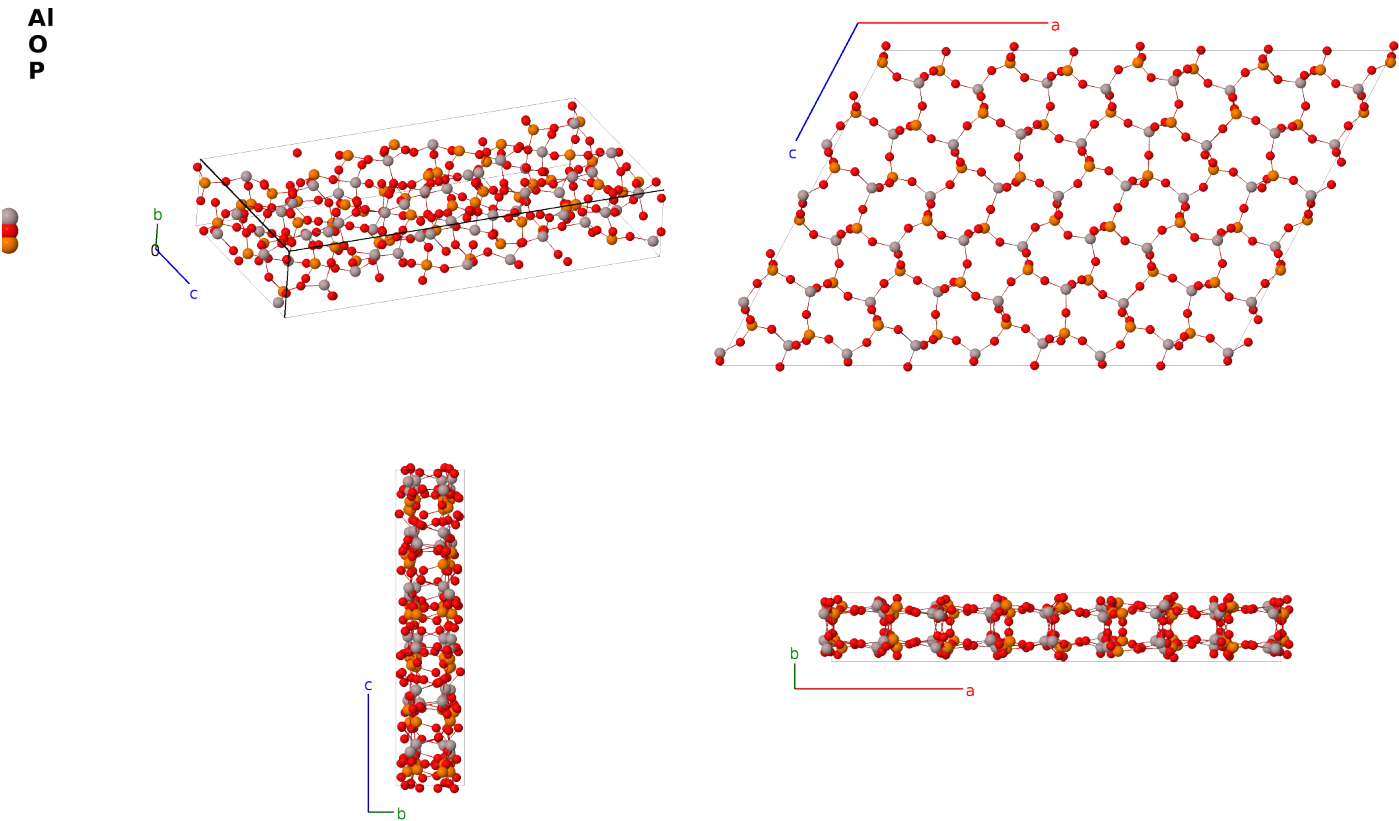
# Monoclinic tridymite (295K) AlPO<sub>4</sub> Structure: AB4C\_mP288\_7\_24a\_96a\_24a-001

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<https://aflow.org/prototype-encyclopedia/HFW9>

[https://aflow.org/prototype-encyclopedia/AB4C\\_mP288\\_7\\_24a\\_96a\\_24a-001](https://aflow.org/prototype-encyclopedia/AB4C_mP288_7_24a_96a_24a-001)



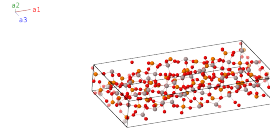
|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prototype               | AlO <sub>4</sub> P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| AFLOW prototype label   | AB4C_mP288_7_24a_96a_24a-001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ICSD                    | 280308                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CCDC                    | 1721024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Pearson symbol          | mP288                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Space group number      | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Space group symbol      | <i>Pc</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| AFLOW prototype command | <pre>aflow --proto=AB4C_mP288_7_24a_96a_24a-001       --params=a,b/a,c/a,β,x<sub>1</sub>,y<sub>1</sub>,z<sub>1</sub>,x<sub>2</sub>,y<sub>2</sub>,z<sub>2</sub>,x<sub>3</sub>,y<sub>3</sub>,z<sub>3</sub>,x<sub>4</sub>,y<sub>4</sub>,z<sub>4</sub>,x<sub>5</sub>,y<sub>5</sub>,z<sub>5</sub>,x<sub>6</sub>,y<sub>6</sub>,z<sub>6</sub>,x<sub>7</sub>, y<sub>7</sub>,z<sub>7</sub>,x<sub>8</sub>,y<sub>8</sub>,z<sub>8</sub>,x<sub>9</sub>,y<sub>9</sub>,z<sub>9</sub>,x<sub>10</sub>,y<sub>10</sub>,z<sub>10</sub>,x<sub>11</sub>,y<sub>11</sub>,z<sub>11</sub>,x<sub>12</sub>,y<sub>12</sub>,z<sub>12</sub>,x<sub>13</sub>,y<sub>13</sub>,z<sub>13</sub>,x<sub>14</sub>,y<sub>14</sub>,z<sub>14</sub>,x<sub>15</sub>,</pre> |

$y_{15}, z_{15}, x_{16}, y_{16}, z_{16}, x_{17}, y_{17}, z_{17}, x_{18}, y_{18}, z_{18}, x_{19}, y_{19}, z_{19}, x_{20}, y_{20}, z_{20}, x_{21}, y_{21}, z_{21}, x_{22}, y_{22},$   
 $z_{22}, x_{23}, y_{23}, z_{23}, x_{24}, y_{24}, z_{24}, x_{25}, y_{25}, z_{25}, x_{26}, y_{26}, z_{26}, x_{27}, y_{27}, z_{27}, x_{28}, y_{28}, z_{28}, x_{29}, y_{29}, z_{29},$   
 $x_{30}, y_{30}, z_{30}, x_{31}, y_{31}, z_{31}, x_{32}, y_{32}, z_{32}, x_{33}, y_{33}, z_{33}, x_{34}, y_{34}, z_{34}, x_{35}, y_{35}, z_{35}, x_{36}, y_{36}, z_{36}, x_{37},$   
 $y_{37}, z_{37}, x_{38}, y_{38}, z_{38}, x_{39}, y_{39}, z_{39}, x_{40}, y_{40}, z_{40}, x_{41}, y_{41}, z_{41}, x_{42}, y_{42}, z_{42}, x_{43}, y_{43}, z_{43}, x_{44}, y_{44},$   
 $z_{44}, x_{45}, y_{45}, z_{45}, x_{46}, y_{46}, z_{46}, x_{47}, y_{47}, z_{47}, x_{48}, y_{48}, z_{48}, x_{49}, y_{49}, z_{49}, x_{50}, y_{50}, z_{50}, x_{51}, y_{51}, z_{51},$   
 $x_{52}, y_{52}, z_{52}, x_{53}, y_{53}, z_{53}, x_{54}, y_{54}, z_{54}, x_{55}, y_{55}, z_{55}, x_{56}, y_{56}, z_{56}, x_{57}, y_{57}, z_{57}, x_{58}, y_{58}, z_{58}, x_{59},$   
 $y_{59}, z_{59}, x_{60}, y_{60}, z_{60}, x_{61}, y_{61}, z_{61}, x_{62}, y_{62}, z_{62}, x_{63}, y_{63}, z_{63}, x_{64}, y_{64}, z_{64}, x_{65}, y_{65}, z_{65}, x_{66}, y_{66},$   
 $z_{66}, x_{67}, y_{67}, z_{67}, x_{68}, y_{68}, z_{68}, x_{69}, y_{69}, z_{69}, x_{70}, y_{70}, z_{70}, x_{71}, y_{71}, z_{71}, x_{72}, y_{72}, z_{72}, x_{73}, y_{73}, z_{73},$   
 $x_{74}, y_{74}, z_{74}, x_{75}, y_{75}, z_{75}, x_{76}, y_{76}, z_{76}, x_{77}, y_{77}, z_{77}, x_{78}, y_{78}, z_{78}, x_{79}, y_{79}, z_{79}, x_{80}, y_{80}, z_{80}, x_{81},$   
 $y_{81}, z_{81}, x_{82}, y_{82}, z_{82}, x_{83}, y_{83}, z_{83}, x_{84}, y_{84}, z_{84}, x_{85}, y_{85}, z_{85}, x_{86}, y_{86}, z_{86}, x_{87}, y_{87}, z_{87}, x_{88}, y_{88},$   
 $z_{88}, x_{89}, y_{89}, z_{89}, x_{90}, y_{90}, z_{90}, x_{91}, y_{91}, z_{91}, x_{92}, y_{92}, z_{92}, x_{93}, y_{93}, z_{93}, x_{94}, y_{94}, z_{94}, x_{95}, y_{95}, z_{95},$   
 $x_{96}, y_{96}, z_{96}, x_{97}, y_{97}, z_{97}, x_{98}, y_{98}, z_{98}, x_{99}, y_{99}, z_{99}, x_{100}, y_{100}, z_{100}, x_{101}, y_{101}, z_{101}, x_{102}, y_{102}, z_{102},$   
 $x_{103}, y_{103}, z_{103}, x_{104}, y_{104}, z_{104}, x_{105}, y_{105}, z_{105}, x_{106}, y_{106}, z_{106}, x_{107}, y_{107}, z_{107}, x_{108}, y_{108}, z_{108},$   
 $x_{109}, y_{109}, z_{109}, x_{110}, y_{110}, z_{110}, x_{111}, y_{111}, z_{111}, x_{112}, y_{112}, z_{112}, x_{113}, y_{113}, z_{113}, x_{114}, y_{114}, z_{114},$   
 $x_{115}, y_{115}, z_{115}, x_{116}, y_{116}, z_{116}, x_{117}, y_{117}, z_{117}, x_{118}, y_{118}, z_{118}, x_{119}, y_{119}, z_{119}, x_{120}, y_{120}, z_{120},$   
 $x_{121}, y_{121}, z_{121}, x_{122}, y_{122}, z_{122}, x_{123}, y_{123}, z_{123}, x_{124}, y_{124}, z_{124}, x_{125}, y_{125}, z_{125}, x_{126}, y_{126}, z_{126},$   
 $x_{127}, y_{127}, z_{127}, x_{128}, y_{128}, z_{128}, x_{129}, y_{129}, z_{129}, x_{130}, y_{130}, z_{130}, x_{131}, y_{131}, z_{131}, x_{132}, y_{132}, z_{132},$   
 $x_{133}, y_{133}, z_{133}, x_{134}, y_{134}, z_{134}, x_{135}, y_{135}, z_{135}, x_{136}, y_{136}, z_{136}, x_{137}, y_{137}, z_{137}, x_{138}, y_{138}, z_{138},$   
 $x_{139}, y_{139}, z_{139}, x_{140}, y_{140}, z_{140}, x_{141}, y_{141}, z_{141}, x_{142}, y_{142}, z_{142}, x_{143}, y_{143}, z_{143}, x_{144}, y_{144}, z_{144}$

- The tridymite form of  $\text{AlPO}_4$  is related to the tridymite forms of  $\text{SiO}_2$ . Like  $\text{SiO}_2$  it undergoes a series of temperature driven phase transitions (Graetsch, 2002):
  - The high temperature form is hexagonal, space group  $P6_3mc$  #186 at temperatures above  $\approx 590\text{K}$
  - The first intermediate form is monoclinic, space group  $P2_1$  #4 at temperatures above  $\approx 460\text{K}$
  - The second intermediate form,  $P2_1(\alpha\beta 0)$ , is incommensurate but averages to a structure similar to the previous one
  - This is followed by an orthorhombic form, space group  $P2_12_12_1$  #19, for which we have no data.
  - Near room temperature we find another monoclinic structure, space group  $Pc$  #7 (this structure)
  - The low temperature structure is triclinic, space group  $P1$  #1, also measured at room temperature.
- The astute reader will recognize that we are very vague about these phase transitions, as we have found no definitive phase diagram.
- For more information on related structures see our silica and aluminum phosphate page.
- Data for this structure was taken at  $295\text{K}$ .

### Simple Monoclinic primitive vectors

$$\begin{aligned}
 \mathbf{a}_1 &= a \hat{\mathbf{x}} \\
 \mathbf{a}_2 &= b \hat{\mathbf{y}} \\
 \mathbf{a}_3 &= c \cos \beta \hat{\mathbf{x}} + c \sin \beta \hat{\mathbf{z}}
 \end{aligned}$$



### Basis vectors

|                | Lattice coordinates                                                                   | Cartesian coordinates                                                                                                                                                       | Wyckoff position | Atom type |
|----------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------|
| $\mathbf{B}_1$ | $= x_1 \mathbf{a}_1 + y_1 \mathbf{a}_2 + z_1 \mathbf{a}_3$                            | $= (ax_1 + cz_1 \cos \beta) \hat{\mathbf{x}} + by_1 \hat{\mathbf{y}} + cz_1 \sin \beta \hat{\mathbf{z}}$                                                                    | (2a)             | Al I      |
| $\mathbf{B}_2$ | $= x_1 \mathbf{a}_1 - y_1 \mathbf{a}_2 + \left(z_1 + \frac{1}{2}\right) \mathbf{a}_3$ | $= \left(ax_1 + c \left(z_1 + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_1 \hat{\mathbf{y}} + c \left(z_1 + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a)             | Al I      |
| $\mathbf{B}_3$ | $= x_2 \mathbf{a}_1 + y_2 \mathbf{a}_2 + z_2 \mathbf{a}_3$                            | $= (ax_2 + cz_2 \cos \beta) \hat{\mathbf{x}} + by_2 \hat{\mathbf{y}} + cz_2 \sin \beta \hat{\mathbf{z}}$                                                                    | (2a)             | Al II     |

|                   |     |                                                                                              |     |                                                                                                                                                    |      |         |
|-------------------|-----|----------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|
| $\mathbf{B}_4$    | $=$ | $x_2 \mathbf{a}_1 - y_2 \mathbf{a}_2 + \left(z_2 + \frac{1}{2}\right) \mathbf{a}_3$          | $=$ | $(ax_2 + c(z_2 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_2 \hat{\mathbf{y}} + c(z_2 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$             | (2a) | Al II   |
| $\mathbf{B}_5$    | $=$ | $x_3 \mathbf{a}_1 + y_3 \mathbf{a}_2 + z_3 \mathbf{a}_3$                                     | $=$ | $(ax_3 + cz_3 \cos \beta) \hat{\mathbf{x}} + by_3 \hat{\mathbf{y}} + cz_3 \sin \beta \hat{\mathbf{z}}$                                             | (2a) | Al III  |
| $\mathbf{B}_6$    | $=$ | $x_3 \mathbf{a}_1 - y_3 \mathbf{a}_2 + \left(z_3 + \frac{1}{2}\right) \mathbf{a}_3$          | $=$ | $(ax_3 + c(z_3 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_3 \hat{\mathbf{y}} + c(z_3 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$             | (2a) | Al III  |
| $\mathbf{B}_7$    | $=$ | $x_4 \mathbf{a}_1 + y_4 \mathbf{a}_2 + z_4 \mathbf{a}_3$                                     | $=$ | $(ax_4 + cz_4 \cos \beta) \hat{\mathbf{x}} + by_4 \hat{\mathbf{y}} + cz_4 \sin \beta \hat{\mathbf{z}}$                                             | (2a) | Al IV   |
| $\mathbf{B}_8$    | $=$ | $x_4 \mathbf{a}_1 - y_4 \mathbf{a}_2 + \left(z_4 + \frac{1}{2}\right) \mathbf{a}_3$          | $=$ | $(ax_4 + c(z_4 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_4 \hat{\mathbf{y}} + c(z_4 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$             | (2a) | Al IV   |
| $\mathbf{B}_9$    | $=$ | $x_5 \mathbf{a}_1 + y_5 \mathbf{a}_2 + z_5 \mathbf{a}_3$                                     | $=$ | $(ax_5 + cz_5 \cos \beta) \hat{\mathbf{x}} + by_5 \hat{\mathbf{y}} + cz_5 \sin \beta \hat{\mathbf{z}}$                                             | (2a) | Al V    |
| $\mathbf{B}_{10}$ | $=$ | $x_5 \mathbf{a}_1 - y_5 \mathbf{a}_2 + \left(z_5 + \frac{1}{2}\right) \mathbf{a}_3$          | $=$ | $(ax_5 + c(z_5 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_5 \hat{\mathbf{y}} + c(z_5 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$             | (2a) | Al V    |
| $\mathbf{B}_{11}$ | $=$ | $x_6 \mathbf{a}_1 + y_6 \mathbf{a}_2 + z_6 \mathbf{a}_3$                                     | $=$ | $(ax_6 + cz_6 \cos \beta) \hat{\mathbf{x}} + by_6 \hat{\mathbf{y}} + cz_6 \sin \beta \hat{\mathbf{z}}$                                             | (2a) | Al VI   |
| $\mathbf{B}_{12}$ | $=$ | $x_6 \mathbf{a}_1 - y_6 \mathbf{a}_2 + \left(z_6 + \frac{1}{2}\right) \mathbf{a}_3$          | $=$ | $(ax_6 + c(z_6 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_6 \hat{\mathbf{y}} + c(z_6 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$             | (2a) | Al VI   |
| $\mathbf{B}_{13}$ | $=$ | $x_7 \mathbf{a}_1 + y_7 \mathbf{a}_2 + z_7 \mathbf{a}_3$                                     | $=$ | $(ax_7 + cz_7 \cos \beta) \hat{\mathbf{x}} + by_7 \hat{\mathbf{y}} + cz_7 \sin \beta \hat{\mathbf{z}}$                                             | (2a) | Al VII  |
| $\mathbf{B}_{14}$ | $=$ | $x_7 \mathbf{a}_1 - y_7 \mathbf{a}_2 + \left(z_7 + \frac{1}{2}\right) \mathbf{a}_3$          | $=$ | $(ax_7 + c(z_7 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_7 \hat{\mathbf{y}} + c(z_7 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$             | (2a) | Al VII  |
| $\mathbf{B}_{15}$ | $=$ | $x_8 \mathbf{a}_1 + y_8 \mathbf{a}_2 + z_8 \mathbf{a}_3$                                     | $=$ | $(ax_8 + cz_8 \cos \beta) \hat{\mathbf{x}} + by_8 \hat{\mathbf{y}} + cz_8 \sin \beta \hat{\mathbf{z}}$                                             | (2a) | Al VIII |
| $\mathbf{B}_{16}$ | $=$ | $x_8 \mathbf{a}_1 - y_8 \mathbf{a}_2 + \left(z_8 + \frac{1}{2}\right) \mathbf{a}_3$          | $=$ | $(ax_8 + c(z_8 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_8 \hat{\mathbf{y}} + c(z_8 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$             | (2a) | Al VIII |
| $\mathbf{B}_{17}$ | $=$ | $x_9 \mathbf{a}_1 + y_9 \mathbf{a}_2 + z_9 \mathbf{a}_3$                                     | $=$ | $(ax_9 + cz_9 \cos \beta) \hat{\mathbf{x}} + by_9 \hat{\mathbf{y}} + cz_9 \sin \beta \hat{\mathbf{z}}$                                             | (2a) | Al IX   |
| $\mathbf{B}_{18}$ | $=$ | $x_9 \mathbf{a}_1 - y_9 \mathbf{a}_2 + \left(z_9 + \frac{1}{2}\right) \mathbf{a}_3$          | $=$ | $(ax_9 + c(z_9 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_9 \hat{\mathbf{y}} + c(z_9 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$             | (2a) | Al IX   |
| $\mathbf{B}_{19}$ | $=$ | $x_{10} \mathbf{a}_1 + y_{10} \mathbf{a}_2 + z_{10} \mathbf{a}_3$                            | $=$ | $(ax_{10} + cz_{10} \cos \beta) \hat{\mathbf{x}} + by_{10} \hat{\mathbf{y}} + cz_{10} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | Al X    |
| $\mathbf{B}_{20}$ | $=$ | $x_{10} \mathbf{a}_1 - y_{10} \mathbf{a}_2 + \left(z_{10} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $(ax_{10} + c(z_{10} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{10} \hat{\mathbf{y}} + c(z_{10} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | Al X    |
| $\mathbf{B}_{21}$ | $=$ | $x_{11} \mathbf{a}_1 + y_{11} \mathbf{a}_2 + z_{11} \mathbf{a}_3$                            | $=$ | $(ax_{11} + cz_{11} \cos \beta) \hat{\mathbf{x}} + by_{11} \hat{\mathbf{y}} + cz_{11} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | Al XI   |
| $\mathbf{B}_{22}$ | $=$ | $x_{11} \mathbf{a}_1 - y_{11} \mathbf{a}_2 + \left(z_{11} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $(ax_{11} + c(z_{11} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{11} \hat{\mathbf{y}} + c(z_{11} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | Al XI   |
| $\mathbf{B}_{23}$ | $=$ | $x_{12} \mathbf{a}_1 + y_{12} \mathbf{a}_2 + z_{12} \mathbf{a}_3$                            | $=$ | $(ax_{12} + cz_{12} \cos \beta) \hat{\mathbf{x}} + by_{12} \hat{\mathbf{y}} + cz_{12} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | Al XII  |
| $\mathbf{B}_{24}$ | $=$ | $x_{12} \mathbf{a}_1 - y_{12} \mathbf{a}_2 + \left(z_{12} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $(ax_{12} + c(z_{12} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{12} \hat{\mathbf{y}} + c(z_{12} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | Al XII  |
| $\mathbf{B}_{25}$ | $=$ | $x_{13} \mathbf{a}_1 + y_{13} \mathbf{a}_2 + z_{13} \mathbf{a}_3$                            | $=$ | $(ax_{13} + cz_{13} \cos \beta) \hat{\mathbf{x}} + by_{13} \hat{\mathbf{y}} + cz_{13} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | Al XIII |
| $\mathbf{B}_{26}$ | $=$ | $x_{13} \mathbf{a}_1 - y_{13} \mathbf{a}_2 + \left(z_{13} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $(ax_{13} + c(z_{13} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{13} \hat{\mathbf{y}} + c(z_{13} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | Al XIII |
| $\mathbf{B}_{27}$ | $=$ | $x_{14} \mathbf{a}_1 + y_{14} \mathbf{a}_2 + z_{14} \mathbf{a}_3$                            | $=$ | $(ax_{14} + cz_{14} \cos \beta) \hat{\mathbf{x}} + by_{14} \hat{\mathbf{y}} + cz_{14} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | Al XIV  |
| $\mathbf{B}_{28}$ | $=$ | $x_{14} \mathbf{a}_1 - y_{14} \mathbf{a}_2 + \left(z_{14} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $(ax_{14} + c(z_{14} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{14} \hat{\mathbf{y}} + c(z_{14} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | Al XIV  |
| $\mathbf{B}_{29}$ | $=$ | $x_{15} \mathbf{a}_1 + y_{15} \mathbf{a}_2 + z_{15} \mathbf{a}_3$                            | $=$ | $(ax_{15} + cz_{15} \cos \beta) \hat{\mathbf{x}} + by_{15} \hat{\mathbf{y}} + cz_{15} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | Al XV   |
| $\mathbf{B}_{30}$ | $=$ | $x_{15} \mathbf{a}_1 - y_{15} \mathbf{a}_2 + \left(z_{15} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $(ax_{15} + c(z_{15} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{15} \hat{\mathbf{y}} + c(z_{15} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | Al XV   |
| $\mathbf{B}_{31}$ | $=$ | $x_{16} \mathbf{a}_1 + y_{16} \mathbf{a}_2 + z_{16} \mathbf{a}_3$                            | $=$ | $(ax_{16} + cz_{16} \cos \beta) \hat{\mathbf{x}} + by_{16} \hat{\mathbf{y}} + cz_{16} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | Al XVI  |
| $\mathbf{B}_{32}$ | $=$ | $x_{16} \mathbf{a}_1 - y_{16} \mathbf{a}_2 + \left(z_{16} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $(ax_{16} + c(z_{16} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{16} \hat{\mathbf{y}} + c(z_{16} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | Al XVI  |
| $\mathbf{B}_{33}$ | $=$ | $x_{17} \mathbf{a}_1 + y_{17} \mathbf{a}_2 + z_{17} \mathbf{a}_3$                            | $=$ | $(ax_{17} + cz_{17} \cos \beta) \hat{\mathbf{x}} + by_{17} \hat{\mathbf{y}} + cz_{17} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | Al XVII |



|                       |     |                                                                                              |     |                                                                                                                                                                                       |      |         |
|-----------------------|-----|----------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|
| <b>B<sub>64</sub></b> | $=$ | $x_{32} \mathbf{a}_1 - y_{32} \mathbf{a}_2 + \left(z_{32} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{32} + c \left(z_{32} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{32} \hat{\mathbf{y}} + c \left(z_{32} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a) | O VIII  |
| <b>B<sub>65</sub></b> | $=$ | $x_{33} \mathbf{a}_1 + y_{33} \mathbf{a}_2 + z_{33} \mathbf{a}_3$                            | $=$ | $(ax_{33} + cz_{33} \cos \beta) \hat{\mathbf{x}} + by_{33} \hat{\mathbf{y}} + cz_{33} \sin \beta \hat{\mathbf{z}}$                                                                    | (2a) | O IX    |
| <b>B<sub>66</sub></b> | $=$ | $x_{33} \mathbf{a}_1 - y_{33} \mathbf{a}_2 + \left(z_{33} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{33} + c \left(z_{33} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{33} \hat{\mathbf{y}} + c \left(z_{33} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a) | O IX    |
| <b>B<sub>67</sub></b> | $=$ | $x_{34} \mathbf{a}_1 + y_{34} \mathbf{a}_2 + z_{34} \mathbf{a}_3$                            | $=$ | $(ax_{34} + cz_{34} \cos \beta) \hat{\mathbf{x}} + by_{34} \hat{\mathbf{y}} + cz_{34} \sin \beta \hat{\mathbf{z}}$                                                                    | (2a) | O X     |
| <b>B<sub>68</sub></b> | $=$ | $x_{34} \mathbf{a}_1 - y_{34} \mathbf{a}_2 + \left(z_{34} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{34} + c \left(z_{34} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{34} \hat{\mathbf{y}} + c \left(z_{34} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a) | O X     |
| <b>B<sub>69</sub></b> | $=$ | $x_{35} \mathbf{a}_1 + y_{35} \mathbf{a}_2 + z_{35} \mathbf{a}_3$                            | $=$ | $(ax_{35} + cz_{35} \cos \beta) \hat{\mathbf{x}} + by_{35} \hat{\mathbf{y}} + cz_{35} \sin \beta \hat{\mathbf{z}}$                                                                    | (2a) | O XI    |
| <b>B<sub>70</sub></b> | $=$ | $x_{35} \mathbf{a}_1 - y_{35} \mathbf{a}_2 + \left(z_{35} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{35} + c \left(z_{35} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{35} \hat{\mathbf{y}} + c \left(z_{35} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XI    |
| <b>B<sub>71</sub></b> | $=$ | $x_{36} \mathbf{a}_1 + y_{36} \mathbf{a}_2 + z_{36} \mathbf{a}_3$                            | $=$ | $(ax_{36} + cz_{36} \cos \beta) \hat{\mathbf{x}} + by_{36} \hat{\mathbf{y}} + cz_{36} \sin \beta \hat{\mathbf{z}}$                                                                    | (2a) | O XII   |
| <b>B<sub>72</sub></b> | $=$ | $x_{36} \mathbf{a}_1 - y_{36} \mathbf{a}_2 + \left(z_{36} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{36} + c \left(z_{36} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{36} \hat{\mathbf{y}} + c \left(z_{36} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XII   |
| <b>B<sub>73</sub></b> | $=$ | $x_{37} \mathbf{a}_1 + y_{37} \mathbf{a}_2 + z_{37} \mathbf{a}_3$                            | $=$ | $(ax_{37} + cz_{37} \cos \beta) \hat{\mathbf{x}} + by_{37} \hat{\mathbf{y}} + cz_{37} \sin \beta \hat{\mathbf{z}}$                                                                    | (2a) | O XIII  |
| <b>B<sub>74</sub></b> | $=$ | $x_{37} \mathbf{a}_1 - y_{37} \mathbf{a}_2 + \left(z_{37} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{37} + c \left(z_{37} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{37} \hat{\mathbf{y}} + c \left(z_{37} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XIII  |
| <b>B<sub>75</sub></b> | $=$ | $x_{38} \mathbf{a}_1 + y_{38} \mathbf{a}_2 + z_{38} \mathbf{a}_3$                            | $=$ | $(ax_{38} + cz_{38} \cos \beta) \hat{\mathbf{x}} + by_{38} \hat{\mathbf{y}} + cz_{38} \sin \beta \hat{\mathbf{z}}$                                                                    | (2a) | O XIV   |
| <b>B<sub>76</sub></b> | $=$ | $x_{38} \mathbf{a}_1 - y_{38} \mathbf{a}_2 + \left(z_{38} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{38} + c \left(z_{38} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{38} \hat{\mathbf{y}} + c \left(z_{38} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XIV   |
| <b>B<sub>77</sub></b> | $=$ | $x_{39} \mathbf{a}_1 + y_{39} \mathbf{a}_2 + z_{39} \mathbf{a}_3$                            | $=$ | $(ax_{39} + cz_{39} \cos \beta) \hat{\mathbf{x}} + by_{39} \hat{\mathbf{y}} + cz_{39} \sin \beta \hat{\mathbf{z}}$                                                                    | (2a) | O XV    |
| <b>B<sub>78</sub></b> | $=$ | $x_{39} \mathbf{a}_1 - y_{39} \mathbf{a}_2 + \left(z_{39} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{39} + c \left(z_{39} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{39} \hat{\mathbf{y}} + c \left(z_{39} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XV    |
| <b>B<sub>79</sub></b> | $=$ | $x_{40} \mathbf{a}_1 + y_{40} \mathbf{a}_2 + z_{40} \mathbf{a}_3$                            | $=$ | $(ax_{40} + cz_{40} \cos \beta) \hat{\mathbf{x}} + by_{40} \hat{\mathbf{y}} + cz_{40} \sin \beta \hat{\mathbf{z}}$                                                                    | (2a) | O XVI   |
| <b>B<sub>80</sub></b> | $=$ | $x_{40} \mathbf{a}_1 - y_{40} \mathbf{a}_2 + \left(z_{40} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{40} + c \left(z_{40} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{40} \hat{\mathbf{y}} + c \left(z_{40} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XVI   |
| <b>B<sub>81</sub></b> | $=$ | $x_{41} \mathbf{a}_1 + y_{41} \mathbf{a}_2 + z_{41} \mathbf{a}_3$                            | $=$ | $(ax_{41} + cz_{41} \cos \beta) \hat{\mathbf{x}} + by_{41} \hat{\mathbf{y}} + cz_{41} \sin \beta \hat{\mathbf{z}}$                                                                    | (2a) | O XVII  |
| <b>B<sub>82</sub></b> | $=$ | $x_{41} \mathbf{a}_1 - y_{41} \mathbf{a}_2 + \left(z_{41} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{41} + c \left(z_{41} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{41} \hat{\mathbf{y}} + c \left(z_{41} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XVII  |
| <b>B<sub>83</sub></b> | $=$ | $x_{42} \mathbf{a}_1 + y_{42} \mathbf{a}_2 + z_{42} \mathbf{a}_3$                            | $=$ | $(ax_{42} + cz_{42} \cos \beta) \hat{\mathbf{x}} + by_{42} \hat{\mathbf{y}} + cz_{42} \sin \beta \hat{\mathbf{z}}$                                                                    | (2a) | O XVIII |
| <b>B<sub>84</sub></b> | $=$ | $x_{42} \mathbf{a}_1 - y_{42} \mathbf{a}_2 + \left(z_{42} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{42} + c \left(z_{42} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{42} \hat{\mathbf{y}} + c \left(z_{42} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XVIII |
| <b>B<sub>85</sub></b> | $=$ | $x_{43} \mathbf{a}_1 + y_{43} \mathbf{a}_2 + z_{43} \mathbf{a}_3$                            | $=$ | $(ax_{43} + cz_{43} \cos \beta) \hat{\mathbf{x}} + by_{43} \hat{\mathbf{y}} + cz_{43} \sin \beta \hat{\mathbf{z}}$                                                                    | (2a) | O XIX   |
| <b>B<sub>86</sub></b> | $=$ | $x_{43} \mathbf{a}_1 - y_{43} \mathbf{a}_2 + \left(z_{43} + \frac{1}{2}\right) \$            |     |                                                                                                                                                                                       |      |         |

|                      |                                                                                              |     |                                                                                                                                                                                       |        |             |
|----------------------|----------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|
| $\mathbf{B}_{94} =$  | $x_{47} \mathbf{a}_1 - y_{47} \mathbf{a}_2 + \left(z_{47} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{47} + c \left(z_{47} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{47} \hat{\mathbf{y}} + c \left(z_{47} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O XXIII     |
| $\mathbf{B}_{95} =$  | $x_{48} \mathbf{a}_1 + y_{48} \mathbf{a}_2 + z_{48} \mathbf{a}_3$                            | $=$ | $(ax_{48} + cz_{48} \cos \beta) \hat{\mathbf{x}} + by_{48} \hat{\mathbf{y}} + cz_{48} \sin \beta \hat{\mathbf{z}}$                                                                    | $(2a)$ | O XXIV      |
| $\mathbf{B}_{96} =$  | $x_{48} \mathbf{a}_1 - y_{48} \mathbf{a}_2 + \left(z_{48} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{48} + c \left(z_{48} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{48} \hat{\mathbf{y}} + c \left(z_{48} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O XXIV      |
| $\mathbf{B}_{97} =$  | $x_{49} \mathbf{a}_1 + y_{49} \mathbf{a}_2 + z_{49} \mathbf{a}_3$                            | $=$ | $(ax_{49} + cz_{49} \cos \beta) \hat{\mathbf{x}} + by_{49} \hat{\mathbf{y}} + cz_{49} \sin \beta \hat{\mathbf{z}}$                                                                    | $(2a)$ | O XXV       |
| $\mathbf{B}_{98} =$  | $x_{49} \mathbf{a}_1 - y_{49} \mathbf{a}_2 + \left(z_{49} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{49} + c \left(z_{49} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{49} \hat{\mathbf{y}} + c \left(z_{49} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O XXV       |
| $\mathbf{B}_{99} =$  | $x_{50} \mathbf{a}_1 + y_{50} \mathbf{a}_2 + z_{50} \mathbf{a}_3$                            | $=$ | $(ax_{50} + cz_{50} \cos \beta) \hat{\mathbf{x}} + by_{50} \hat{\mathbf{y}} + cz_{50} \sin \beta \hat{\mathbf{z}}$                                                                    | $(2a)$ | O XXVI      |
| $\mathbf{B}_{100} =$ | $x_{50} \mathbf{a}_1 - y_{50} \mathbf{a}_2 + \left(z_{50} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{50} + c \left(z_{50} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{50} \hat{\mathbf{y}} + c \left(z_{50} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O XXVI      |
| $\mathbf{B}_{101} =$ | $x_{51} \mathbf{a}_1 + y_{51} \mathbf{a}_2 + z_{51} \mathbf{a}_3$                            | $=$ | $(ax_{51} + cz_{51} \cos \beta) \hat{\mathbf{x}} + by_{51} \hat{\mathbf{y}} + cz_{51} \sin \beta \hat{\mathbf{z}}$                                                                    | $(2a)$ | O XXVII     |
| $\mathbf{B}_{102} =$ | $x_{51} \mathbf{a}_1 - y_{51} \mathbf{a}_2 + \left(z_{51} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{51} + c \left(z_{51} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{51} \hat{\mathbf{y}} + c \left(z_{51} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O XXVII     |
| $\mathbf{B}_{103} =$ | $x_{52} \mathbf{a}_1 + y_{52} \mathbf{a}_2 + z_{52} \mathbf{a}_3$                            | $=$ | $(ax_{52} + cz_{52} \cos \beta) \hat{\mathbf{x}} + by_{52} \hat{\mathbf{y}} + cz_{52} \sin \beta \hat{\mathbf{z}}$                                                                    | $(2a)$ | O<br>XXVIII |
| $\mathbf{B}_{104} =$ | $x_{52} \mathbf{a}_1 - y_{52} \mathbf{a}_2 + \left(z_{52} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{52} + c \left(z_{52} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{52} \hat{\mathbf{y}} + c \left(z_{52} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>XXVIII |
| $\mathbf{B}_{105} =$ | $x_{53} \mathbf{a}_1 + y_{53} \mathbf{a}_2 + z_{53} \mathbf{a}_3$                            | $=$ | $(ax_{53} + cz_{53} \cos \beta) \hat{\mathbf{x}} + by_{53} \hat{\mathbf{y}} + cz_{53} \sin \beta \hat{\mathbf{z}}$                                                                    | $(2a)$ | O XXIX      |
| $\mathbf{B}_{106} =$ | $x_{53} \mathbf{a}_1 - y_{53} \mathbf{a}_2 + \left(z_{53} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{53} + c \left(z_{53} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{53} \hat{\mathbf{y}} + c \left(z_{53} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O XXIX      |
| $\mathbf{B}_{107} =$ | $x_{54} \mathbf{a}_1 + y_{54} \mathbf{a}_2 + z_{54} \mathbf{a}_3$                            | $=$ | $(ax_{54} + cz_{54} \cos \beta) \hat{\mathbf{x}} + by_{54} \hat{\mathbf{y}} + cz_{54} \sin \beta \hat{\mathbf{z}}$                                                                    | $(2a)$ | O XXX       |
| $\mathbf{B}_{108} =$ | $x_{54} \mathbf{a}_1 - y_{54} \mathbf{a}_2 + \left(z_{54} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{54} + c \left(z_{54} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{54} \hat{\mathbf{y}} + c \left(z_{54} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O XXX       |
| $\mathbf{B}_{109} =$ | $x_{55} \mathbf{a}_1 + y_{55} \mathbf{a}_2 + z_{55} \mathbf{a}_3$                            | $=$ | $(ax_{55} + cz_{55} \cos \beta) \hat{\mathbf{x}} + by_{55} \hat{\mathbf{y}} + cz_{55} \sin \beta \hat{\mathbf{z}}$                                                                    | $(2a)$ | O XXXI      |
| $\mathbf{B}_{110} =$ | $x_{55} \mathbf{a}_1 - y_{55} \mathbf{a}_2 + \left(z_{55} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{55} + c \left(z_{55} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{55} \hat{\mathbf{y}} + c \left(z_{55} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O XXXI      |
| $\mathbf{B}_{111} =$ | $x_{56} \mathbf{a}_1 + y_{56} \mathbf{a}_2 + z_{56} \mathbf{a}_3$                            | $=$ | $(ax_{56} + cz_{56} \cos \beta) \hat{\mathbf{x}} + by_{56} \hat{\mathbf{y}} + cz_{56} \sin \beta \hat{\mathbf{z}}$                                                                    | $(2a)$ | O XXXII     |
| $\mathbf{B}_{112} =$ | $x_{56} \mathbf{a}_1 - y_{56} \mathbf{a}_2 + \left(z_{56} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{56} + c \left(z_{56} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{56} \hat{\mathbf{y}} + c \left(z_{56} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O XXXII     |
| $\mathbf{B}_{113} =$ | $x_{57} \mathbf{a}_1 + y_{57} \mathbf{a}_2 + z_{57} \mathbf{a}_3$                            | $=$ | $(ax_{57} + cz_{57} \cos \beta) \hat{\mathbf{x}} + by_{57} \hat{\mathbf{y}} + cz_{57} \sin \beta \hat{\mathbf{z}}$                                                                    | $(2a)$ | O<br>XXXIII |
| $\mathbf{B}_{114} =$ | $x_{57} \mathbf{a}_1 - y_{57} \mathbf{a}_2 + \left(z_{57} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax_{57} + c \left(z_{57} + \frac{1}{2}\right) \cos \beta\right) \hat{\mathbf{x}} - by_{57} \hat{\mathbf{y}} + c \left(z_{57} + \frac{1}{2}\right) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>XXXIII |
| $\mathbf{B}_{115} =$ | $x_{58} \mathbf{a}_1 + y_{58} \mathbf{a}_2 + z_{58} \mathbf{a}_3$                            | $=$ | $(ax_{58} + cz_{58} \cos \beta) \hat{\mathbf{x}} + by_{58} \hat{\mathbf{y}} + cz_{58} \sin \beta \hat{\mathbf{z}}$                                                                    | $(2a)$ | O<br>XXXIV  |
| $\mathbf{B}_{116} =$ | $x_{58} \mathbf{a}_1 - y_{58} \mathbf{a}_2 + \left(z_{58} + \frac{1}{2}\right) \mathbf{a}_3$ | $=$ | $\left(ax$                                                                                                                                                                            |        |             |



|                      |                                                                                   |     |                                                                                                                                                    |      |         |
|----------------------|-----------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|
| $\mathbf{B}_{149} =$ | $x_{75} \mathbf{a}_1 + y_{75} \mathbf{a}_2 + z_{75} \mathbf{a}_3$                 | $=$ | $(ax_{75} + cz_{75} \cos \beta) \hat{\mathbf{x}} + by_{75} \hat{\mathbf{y}} + cz_{75} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LI    |
| $\mathbf{B}_{150} =$ | $x_{75} \mathbf{a}_1 - y_{75} \mathbf{a}_2 + (z_{75} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{75} + c(z_{75} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{75} \hat{\mathbf{y}} + c(z_{75} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LI    |
| $\mathbf{B}_{151} =$ | $x_{76} \mathbf{a}_1 + y_{76} \mathbf{a}_2 + z_{76} \mathbf{a}_3$                 | $=$ | $(ax_{76} + cz_{76} \cos \beta) \hat{\mathbf{x}} + by_{76} \hat{\mathbf{y}} + cz_{76} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LII   |
| $\mathbf{B}_{152} =$ | $x_{76} \mathbf{a}_1 - y_{76} \mathbf{a}_2 + (z_{76} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{76} + c(z_{76} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{76} \hat{\mathbf{y}} + c(z_{76} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LII   |
| $\mathbf{B}_{153} =$ | $x_{77} \mathbf{a}_1 + y_{77} \mathbf{a}_2 + z_{77} \mathbf{a}_3$                 | $=$ | $(ax_{77} + cz_{77} \cos \beta) \hat{\mathbf{x}} + by_{77} \hat{\mathbf{y}} + cz_{77} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LIII  |
| $\mathbf{B}_{154} =$ | $x_{77} \mathbf{a}_1 - y_{77} \mathbf{a}_2 + (z_{77} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{77} + c(z_{77} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{77} \hat{\mathbf{y}} + c(z_{77} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LIII  |
| $\mathbf{B}_{155} =$ | $x_{78} \mathbf{a}_1 + y_{78} \mathbf{a}_2 + z_{78} \mathbf{a}_3$                 | $=$ | $(ax_{78} + cz_{78} \cos \beta) \hat{\mathbf{x}} + by_{78} \hat{\mathbf{y}} + cz_{78} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LIV   |
| $\mathbf{B}_{156} =$ | $x_{78} \mathbf{a}_1 - y_{78} \mathbf{a}_2 + (z_{78} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{78} + c(z_{78} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{78} \hat{\mathbf{y}} + c(z_{78} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LIV   |
| $\mathbf{B}_{157} =$ | $x_{79} \mathbf{a}_1 + y_{79} \mathbf{a}_2 + z_{79} \mathbf{a}_3$                 | $=$ | $(ax_{79} + cz_{79} \cos \beta) \hat{\mathbf{x}} + by_{79} \hat{\mathbf{y}} + cz_{79} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LV    |
| $\mathbf{B}_{158} =$ | $x_{79} \mathbf{a}_1 - y_{79} \mathbf{a}_2 + (z_{79} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{79} + c(z_{79} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{79} \hat{\mathbf{y}} + c(z_{79} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LV    |
| $\mathbf{B}_{159} =$ | $x_{80} \mathbf{a}_1 + y_{80} \mathbf{a}_2 + z_{80} \mathbf{a}_3$                 | $=$ | $(ax_{80} + cz_{80} \cos \beta) \hat{\mathbf{x}} + by_{80} \hat{\mathbf{y}} + cz_{80} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LVI   |
| $\mathbf{B}_{160} =$ | $x_{80} \mathbf{a}_1 - y_{80} \mathbf{a}_2 + (z_{80} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{80} + c(z_{80} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{80} \hat{\mathbf{y}} + c(z_{80} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LVI   |
| $\mathbf{B}_{161} =$ | $x_{81} \mathbf{a}_1 + y_{81} \mathbf{a}_2 + z_{81} \mathbf{a}_3$                 | $=$ | $(ax_{81} + cz_{81} \cos \beta) \hat{\mathbf{x}} + by_{81} \hat{\mathbf{y}} + cz_{81} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LVII  |
| $\mathbf{B}_{162} =$ | $x_{81} \mathbf{a}_1 - y_{81} \mathbf{a}_2 + (z_{81} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{81} + c(z_{81} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{81} \hat{\mathbf{y}} + c(z_{81} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LVII  |
| $\mathbf{B}_{163} =$ | $x_{82} \mathbf{a}_1 + y_{82} \mathbf{a}_2 + z_{82} \mathbf{a}_3$                 | $=$ | $(ax_{82} + cz_{82} \cos \beta) \hat{\mathbf{x}} + by_{82} \hat{\mathbf{y}} + cz_{82} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LVIII |
| $\mathbf{B}_{164} =$ | $x_{82} \mathbf{a}_1 - y_{82} \mathbf{a}_2 + (z_{82} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{82} + c(z_{82} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{82} \hat{\mathbf{y}} + c(z_{82} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LVIII |
| $\mathbf{B}_{165} =$ | $x_{83} \mathbf{a}_1 + y_{83} \mathbf{a}_2 + z_{83} \mathbf{a}_3$                 | $=$ | $(ax_{83} + cz_{83} \cos \beta) \hat{\mathbf{x}} + by_{83} \hat{\mathbf{y}} + cz_{83} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LIX   |
| $\mathbf{B}_{166} =$ | $x_{83} \mathbf{a}_1 - y_{83} \mathbf{a}_2 + (z_{83} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{83} + c(z_{83} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{83} \hat{\mathbf{y}} + c(z_{83} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LIX   |
| $\mathbf{B}_{167} =$ | $x_{84} \mathbf{a}_1 + y_{84} \mathbf{a}_2 + z_{84} \mathbf{a}_3$                 | $=$ | $(ax_{84} + cz_{84} \cos \beta) \hat{\mathbf{x}} + by_{84} \hat{\mathbf{y}} + cz_{84} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LX    |
| $\mathbf{B}_{168} =$ | $x_{84} \mathbf{a}_1 - y_{84} \mathbf{a}_2 + (z_{84} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{84} + c(z_{84} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{84} \hat{\mathbf{y}} + c(z_{84} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LX    |
| $\mathbf{B}_{169} =$ | $x_{85} \mathbf{a}_1 + y_{85} \mathbf{a}_2 + z_{85} \mathbf{a}_3$                 | $=$ | $(ax_{85} + cz_{85} \cos \beta) \hat{\mathbf{x}} + by_{85} \hat{\mathbf{y}} + cz_{85} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LXI   |
| $\mathbf{B}_{170} =$ | $x_{85} \mathbf{a}_1 - y_{85} \mathbf{a}_2 + (z_{85} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{85} + c(z_{85} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{85} \hat{\mathbf{y}} + c(z_{85} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LXI   |
| $\mathbf{B}_{171} =$ | $x_{86} \mathbf{a}_1 + y_{86} \mathbf{a}_2 + z_{86} \mathbf{a}_3$                 | $=$ | $(ax_{86} + cz_{86} \cos \beta) \hat{\mathbf{x}} + by_{86} \hat{\mathbf{y}} + cz_{86} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LXII  |
| $\mathbf{B}_{172} =$ | $x_{86} \mathbf{a}_1 - y_{86} \mathbf{a}_2 + (z_{86} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{86} + c(z_{86} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{86} \hat{\mathbf{y}} + c(z_{86} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LXII  |
|                      |                                                                                   |     |                                                                                                                                                    |      |         |

|                      |                                                                                      |     |                                                                                                                                                        |      |           |
|----------------------|--------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| $\mathbf{B}_{179} =$ | $x_{90} \mathbf{a}_1 + y_{90} \mathbf{a}_2 + z_{90} \mathbf{a}_3$                    | $=$ | $(ax_{90} + cz_{90} \cos \beta) \hat{\mathbf{x}} + by_{90} \hat{\mathbf{y}} + cz_{90} \sin \beta \hat{\mathbf{z}}$                                     | (2a) | O LXVI    |
| $\mathbf{B}_{180} =$ | $x_{90} \mathbf{a}_1 - y_{90} \mathbf{a}_2 + (z_{90} + \frac{1}{2}) \mathbf{a}_3$    | $=$ | $(ax_{90} + c(z_{90} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{90} \hat{\mathbf{y}} + c(z_{90} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$     | (2a) | O LXVI    |
| $\mathbf{B}_{181} =$ | $x_{91} \mathbf{a}_1 + y_{91} \mathbf{a}_2 + z_{91} \mathbf{a}_3$                    | $=$ | $(ax_{91} + cz_{91} \cos \beta) \hat{\mathbf{x}} + by_{91} \hat{\mathbf{y}} + cz_{91} \sin \beta \hat{\mathbf{z}}$                                     | (2a) | O LXVII   |
| $\mathbf{B}_{182} =$ | $x_{91} \mathbf{a}_1 - y_{91} \mathbf{a}_2 + (z_{91} + \frac{1}{2}) \mathbf{a}_3$    | $=$ | $(ax_{91} + c(z_{91} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{91} \hat{\mathbf{y}} + c(z_{91} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$     | (2a) | O LXVII   |
| $\mathbf{B}_{183} =$ | $x_{92} \mathbf{a}_1 + y_{92} \mathbf{a}_2 + z_{92} \mathbf{a}_3$                    | $=$ | $(ax_{92} + cz_{92} \cos \beta) \hat{\mathbf{x}} + by_{92} \hat{\mathbf{y}} + cz_{92} \sin \beta \hat{\mathbf{z}}$                                     | (2a) | O LXVIII  |
| $\mathbf{B}_{184} =$ | $x_{92} \mathbf{a}_1 - y_{92} \mathbf{a}_2 + (z_{92} + \frac{1}{2}) \mathbf{a}_3$    | $=$ | $(ax_{92} + c(z_{92} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{92} \hat{\mathbf{y}} + c(z_{92} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$     | (2a) | O LXVIII  |
| $\mathbf{B}_{185} =$ | $x_{93} \mathbf{a}_1 + y_{93} \mathbf{a}_2 + z_{93} \mathbf{a}_3$                    | $=$ | $(ax_{93} + cz_{93} \cos \beta) \hat{\mathbf{x}} + by_{93} \hat{\mathbf{y}} + cz_{93} \sin \beta \hat{\mathbf{z}}$                                     | (2a) | O LXIX    |
| $\mathbf{B}_{186} =$ | $x_{93} \mathbf{a}_1 - y_{93} \mathbf{a}_2 + (z_{93} + \frac{1}{2}) \mathbf{a}_3$    | $=$ | $(ax_{93} + c(z_{93} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{93} \hat{\mathbf{y}} + c(z_{93} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$     | (2a) | O LXIX    |
| $\mathbf{B}_{187} =$ | $x_{94} \mathbf{a}_1 + y_{94} \mathbf{a}_2 + z_{94} \mathbf{a}_3$                    | $=$ | $(ax_{94} + cz_{94} \cos \beta) \hat{\mathbf{x}} + by_{94} \hat{\mathbf{y}} + cz_{94} \sin \beta \hat{\mathbf{z}}$                                     | (2a) | O LXX     |
| $\mathbf{B}_{188} =$ | $x_{94} \mathbf{a}_1 - y_{94} \mathbf{a}_2 + (z_{94} + \frac{1}{2}) \mathbf{a}_3$    | $=$ | $(ax_{94} + c(z_{94} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{94} \hat{\mathbf{y}} + c(z_{94} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$     | (2a) | O LXX     |
| $\mathbf{B}_{189} =$ | $x_{95} \mathbf{a}_1 + y_{95} \mathbf{a}_2 + z_{95} \mathbf{a}_3$                    | $=$ | $(ax_{95} + cz_{95} \cos \beta) \hat{\mathbf{x}} + by_{95} \hat{\mathbf{y}} + cz_{95} \sin \beta \hat{\mathbf{z}}$                                     | (2a) | O LXXI    |
| $\mathbf{B}_{190} =$ | $x_{95} \mathbf{a}_1 - y_{95} \mathbf{a}_2 + (z_{95} + \frac{1}{2}) \mathbf{a}_3$    | $=$ | $(ax_{95} + c(z_{95} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{95} \hat{\mathbf{y}} + c(z_{95} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$     | (2a) | O LXXI    |
| $\mathbf{B}_{191} =$ | $x_{96} \mathbf{a}_1 + y_{96} \mathbf{a}_2 + z_{96} \mathbf{a}_3$                    | $=$ | $(ax_{96} + cz_{96} \cos \beta) \hat{\mathbf{x}} + by_{96} \hat{\mathbf{y}} + cz_{96} \sin \beta \hat{\mathbf{z}}$                                     | (2a) | O LXXII   |
| $\mathbf{B}_{192} =$ | $x_{96} \mathbf{a}_1 - y_{96} \mathbf{a}_2 + (z_{96} + \frac{1}{2}) \mathbf{a}_3$    | $=$ | $(ax_{96} + c(z_{96} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{96} \hat{\mathbf{y}} + c(z_{96} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$     | (2a) | O LXXII   |
| $\mathbf{B}_{193} =$ | $x_{97} \mathbf{a}_1 + y_{97} \mathbf{a}_2 + z_{97} \mathbf{a}_3$                    | $=$ | $(ax_{97} + cz_{97} \cos \beta) \hat{\mathbf{x}} + by_{97} \hat{\mathbf{y}} + cz_{97} \sin \beta \hat{\mathbf{z}}$                                     | (2a) | O LXXIII  |
| $\mathbf{B}_{194} =$ | $x_{97} \mathbf{a}_1 - y_{97} \mathbf{a}_2 + (z_{97} + \frac{1}{2}) \mathbf{a}_3$    | $=$ | $(ax_{97} + c(z_{97} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{97} \hat{\mathbf{y}} + c(z_{97} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$     | (2a) | O LXXIII  |
| $\mathbf{B}_{195} =$ | $x_{98} \mathbf{a}_1 + y_{98} \mathbf{a}_2 + z_{98} \mathbf{a}_3$                    | $=$ | $(ax_{98} + cz_{98} \cos \beta) \hat{\mathbf{x}} + by_{98} \hat{\mathbf{y}} + cz_{98} \sin \beta \hat{\mathbf{z}}$                                     | (2a) | O LXXIV   |
| $\mathbf{B}_{196} =$ | $x_{98} \mathbf{a}_1 - y_{98} \mathbf{a}_2 + (z_{98} + \frac{1}{2}) \mathbf{a}_3$    | $=$ | $(ax_{98} + c(z_{98} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{98} \hat{\mathbf{y}} + c(z_{98} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$     | (2a) | O LXXIV   |
| $\mathbf{B}_{197} =$ | $x_{99} \mathbf{a}_1 + y_{99} \mathbf{a}_2 + z_{99} \mathbf{a}_3$                    | $=$ | $(ax_{99} + cz_{99} \cos \beta) \hat{\mathbf{x}} + by_{99} \hat{\mathbf{y}} + cz_{99} \sin \beta \hat{\mathbf{z}}$                                     | (2a) | O LXXV    |
| $\mathbf{B}_{198} =$ | $x_{99} \mathbf{a}_1 - y_{99} \mathbf{a}_2 + (z_{99} + \frac{1}{2}) \mathbf{a}_3$    | $=$ | $(ax_{99} + c(z_{99} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{99} \hat{\mathbf{y}} + c(z_{99} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$     | (2a) | O LXXV    |
| $\mathbf{B}_{199} =$ | $x_{100} \mathbf{a}_1 + y_{100} \mathbf{a}_2 + z_{100} \mathbf{a}_3$                 | $=$ | $(ax_{100} + cz_{100} \cos \beta) \hat{\mathbf{x}} + by_{100} \hat{\mathbf{y}} + cz_{100} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LXXVI   |
| $\mathbf{B}_{200} =$ | $x_{100} \mathbf{a}_1 - y_{100} \mathbf{a}_2 + (z_{100} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{100} + c(z_{100} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{100} \hat{\mathbf{y}} + c(z_{100} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LXXVI   |
| $\mathbf{B}_{201} =$ | $x_{101} \mathbf{a}_1 + y_{101} \mathbf{a}_2 + z_{101} \mathbf{a}_3$                 | $=$ | $(ax_{101} + cz_{101} \cos \beta) \hat{\mathbf{x}} + by_{101} \hat{\mathbf{y}} + cz_{101} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LXXVII  |
| $\mathbf{B}_{202} =$ | $x_{101} \mathbf{a}_1 - y_{101} \mathbf{a}_2 + (z_{101} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{101} + c(z_{101} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{101} \hat{\mathbf{y}} + c(z_{101} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LXXVII  |
| $\mathbf{B}_{203} =$ | $x_{102} \mathbf{a}_1 + y_{102} \mathbf{a}_2 + z_{102} \mathbf{a}_3$                 | $=$ | $(ax_{102} + cz_{102} \cos \beta) \hat{\mathbf{x}} + by_{102} \hat{\mathbf{y}} + cz_{102} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O LXXVIII |
| $\mathbf{B}_{204} =$ | $x_{102} \mathbf{a}_1 - y_{102} \mathbf{a}_2 + (z_{102} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{102} + c(z_{102} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{102} \hat{\mathbf{y}} + c(z_{102} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O LXXVIII |

|                      |                                                                                      |     |                                                                                                                                                             |        |               |
|----------------------|--------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------|
| $\mathbf{B}_{205} =$ | $x_{103} \mathbf{a}_1 + y_{103} \mathbf{a}_2 + z_{103} \mathbf{a}_3$                 | $=$ | $(ax_{103} + cz_{103} \cos \beta) \hat{\mathbf{x}} + by_{103} \hat{\mathbf{y}} +$<br>$cz_{103} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O<br>LXXIX    |
| $\mathbf{B}_{206} =$ | $x_{103} \mathbf{a}_1 - y_{103} \mathbf{a}_2 + (z_{103} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{103} + c(z_{103} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{103} \hat{\mathbf{y}} +$<br>$c(z_{103} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>LXXIX    |
| $\mathbf{B}_{207} =$ | $x_{104} \mathbf{a}_1 + y_{104} \mathbf{a}_2 + z_{104} \mathbf{a}_3$                 | $=$ | $(ax_{104} + cz_{104} \cos \beta) \hat{\mathbf{x}} + by_{104} \hat{\mathbf{y}} +$<br>$cz_{104} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O LXXX        |
| $\mathbf{B}_{208} =$ | $x_{104} \mathbf{a}_1 - y_{104} \mathbf{a}_2 + (z_{104} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{104} + c(z_{104} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{104} \hat{\mathbf{y}} +$<br>$c(z_{104} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O LXXX        |
| $\mathbf{B}_{209} =$ | $x_{105} \mathbf{a}_1 + y_{105} \mathbf{a}_2 + z_{105} \mathbf{a}_3$                 | $=$ | $(ax_{105} + cz_{105} \cos \beta) \hat{\mathbf{x}} + by_{105} \hat{\mathbf{y}} +$<br>$cz_{105} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O<br>LXXXI    |
| $\mathbf{B}_{210} =$ | $x_{105} \mathbf{a}_1 - y_{105} \mathbf{a}_2 + (z_{105} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{105} + c(z_{105} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{105} \hat{\mathbf{y}} +$<br>$c(z_{105} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>LXXXI    |
| $\mathbf{B}_{211} =$ | $x_{106} \mathbf{a}_1 + y_{106} \mathbf{a}_2 + z_{106} \mathbf{a}_3$                 | $=$ | $(ax_{106} + cz_{106} \cos \beta) \hat{\mathbf{x}} + by_{106} \hat{\mathbf{y}} +$<br>$cz_{106} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O<br>LXXXII   |
| $\mathbf{B}_{212} =$ | $x_{106} \mathbf{a}_1 - y_{106} \mathbf{a}_2 + (z_{106} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{106} + c(z_{106} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{106} \hat{\mathbf{y}} +$<br>$c(z_{106} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>LXXXII   |
| $\mathbf{B}_{213} =$ | $x_{107} \mathbf{a}_1 + y_{107} \mathbf{a}_2 + z_{107} \mathbf{a}_3$                 | $=$ | $(ax_{107} + cz_{107} \cos \beta) \hat{\mathbf{x}} + by_{107} \hat{\mathbf{y}} +$<br>$cz_{107} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O<br>LXXXIII  |
| $\mathbf{B}_{214} =$ | $x_{107} \mathbf{a}_1 - y_{107} \mathbf{a}_2 + (z_{107} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{107} + c(z_{107} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{107} \hat{\mathbf{y}} +$<br>$c(z_{107} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>LXXXIII  |
| $\mathbf{B}_{215} =$ | $x_{108} \mathbf{a}_1 + y_{108} \mathbf{a}_2 + z_{108} \mathbf{a}_3$                 | $=$ | $(ax_{108} + cz_{108} \cos \beta) \hat{\mathbf{x}} + by_{108} \hat{\mathbf{y}} +$<br>$cz_{108} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O<br>LXXXIV   |
| $\mathbf{B}_{216} =$ | $x_{108} \mathbf{a}_1 - y_{108} \mathbf{a}_2 + (z_{108} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{108} + c(z_{108} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{108} \hat{\mathbf{y}} +$<br>$c(z_{108} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>LXXXIV   |
| $\mathbf{B}_{217} =$ | $x_{109} \mathbf{a}_1 + y_{109} \mathbf{a}_2 + z_{109} \mathbf{a}_3$                 | $=$ | $(ax_{109} + cz_{109} \cos \beta) \hat{\mathbf{x}} + by_{109} \hat{\mathbf{y}} +$<br>$cz_{109} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O<br>LXXXV    |
| $\mathbf{B}_{218} =$ | $x_{109} \mathbf{a}_1 - y_{109} \mathbf{a}_2 + (z_{109} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{109} + c(z_{109} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{109} \hat{\mathbf{y}} +$<br>$c(z_{109} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>LXXXV    |
| $\mathbf{B}_{219} =$ | $x_{110} \mathbf{a}_1 + y_{110} \mathbf{a}_2 + z_{110} \mathbf{a}_3$                 | $=$ | $(ax_{110} + cz_{110} \cos \beta) \hat{\mathbf{x}} + by_{110} \hat{\mathbf{y}} +$<br>$cz_{110} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O<br>LXXXVI   |
| $\mathbf{B}_{220} =$ | $x_{110} \mathbf{a}_1 - y_{110} \mathbf{a}_2 + (z_{110} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{110} + c(z_{110} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{110} \hat{\mathbf{y}} +$<br>$c(z_{110} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>LXXXVI   |
| $\mathbf{B}_{221} =$ | $x_{111} \mathbf{a}_1 + y_{111} \mathbf{a}_2 + z_{111} \mathbf{a}_3$                 | $=$ | $(ax_{111} + cz_{111} \cos \beta) \hat{\mathbf{x}} + by_{111} \hat{\mathbf{y}} +$<br>$cz_{111} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O<br>LXXXVII  |
| $\mathbf{B}_{222} =$ | $x_{111} \mathbf{a}_1 - y_{111} \mathbf{a}_2 + (z_{111} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{111} + c(z_{111} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{111} \hat{\mathbf{y}} +$<br>$c(z_{111} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>LXXXVII  |
| $\mathbf{B}_{223} =$ | $x_{112} \mathbf{a}_1 + y_{112} \mathbf{a}_2 + z_{112} \mathbf{a}_3$                 | $=$ | $(ax_{112} + cz_{112} \cos \beta) \hat{\mathbf{x}} + by_{112} \hat{\mathbf{y}} +$<br>$cz_{112} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O<br>LXXXVIII |
| $\mathbf{B}_{224} =$ | $x_{112} \mathbf{a}_1 - y_{112} \mathbf{a}_2 + (z_{112} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{112} + c(z_{112} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{112} \hat{\mathbf{y}} +$<br>$c(z_{112} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>LXXXVIII |
| $\mathbf{B}_{225} =$ | $x_{113} \mathbf{a}_1 + y_{113} \mathbf{a}_2 + z_{113} \mathbf{a}_3$                 | $=$ | $(ax_{113} + cz_{113} \cos \beta) \hat{\mathbf{x}} + by_{113} \hat{\mathbf{y}} +$<br>$cz_{113} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O<br>LXXXIX   |
| $\mathbf{B}_{226} =$ | $x_{113} \mathbf{a}_1 - y_{113} \mathbf{a}_2 + (z_{113} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{113} + c(z_{113} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{113} \hat{\mathbf{y}} +$<br>$c(z_{113} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | $(2a)$ | O<br>LXXXIX   |
| $\mathbf{B}_{227} =$ | $x_{114} \mathbf{a}_1 + y_{114} \mathbf{a}_2 + z_{114} \mathbf{a}_3$                 | $=$ | $(ax_{114} + cz_{114} \cos \beta) \hat{\mathbf{x}} + by_{114} \hat{\mathbf{y}} +$<br>$cz_{114} \sin \beta \hat{\mathbf{z}}$                                 | $(2a)$ | O XC          |

|                      |                                                                                      |     |                                                                                                                                                        |      |         |
|----------------------|--------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|
| $\mathbf{B}_{228} =$ | $x_{114} \mathbf{a}_1 - y_{114} \mathbf{a}_2 + (z_{114} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{114} + c(z_{114} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{114} \hat{\mathbf{y}} + c(z_{114} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XC    |
| $\mathbf{B}_{229} =$ | $x_{115} \mathbf{a}_1 + y_{115} \mathbf{a}_2 + z_{115} \mathbf{a}_3$                 | $=$ | $(ax_{115} + cz_{115} \cos \beta) \hat{\mathbf{x}} + by_{115} \hat{\mathbf{y}} + cz_{115} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O XCI   |
| $\mathbf{B}_{230} =$ | $x_{115} \mathbf{a}_1 - y_{115} \mathbf{a}_2 + (z_{115} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{115} + c(z_{115} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{115} \hat{\mathbf{y}} + c(z_{115} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XCI   |
| $\mathbf{B}_{231} =$ | $x_{116} \mathbf{a}_1 + y_{116} \mathbf{a}_2 + z_{116} \mathbf{a}_3$                 | $=$ | $(ax_{116} + cz_{116} \cos \beta) \hat{\mathbf{x}} + by_{116} \hat{\mathbf{y}} + cz_{116} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O XCII  |
| $\mathbf{B}_{232} =$ | $x_{116} \mathbf{a}_1 - y_{116} \mathbf{a}_2 + (z_{116} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{116} + c(z_{116} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{116} \hat{\mathbf{y}} + c(z_{116} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XCII  |
| $\mathbf{B}_{233} =$ | $x_{117} \mathbf{a}_1 + y_{117} \mathbf{a}_2 + z_{117} \mathbf{a}_3$                 | $=$ | $(ax_{117} + cz_{117} \cos \beta) \hat{\mathbf{x}} + by_{117} \hat{\mathbf{y}} + cz_{117} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O XCIII |
| $\mathbf{B}_{234} =$ | $x_{117} \mathbf{a}_1 - y_{117} \mathbf{a}_2 + (z_{117} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{117} + c(z_{117} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{117} \hat{\mathbf{y}} + c(z_{117} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XCIII |
| $\mathbf{B}_{235} =$ | $x_{118} \mathbf{a}_1 + y_{118} \mathbf{a}_2 + z_{118} \mathbf{a}_3$                 | $=$ | $(ax_{118} + cz_{118} \cos \beta) \hat{\mathbf{x}} + by_{118} \hat{\mathbf{y}} + cz_{118} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O XCIV  |
| $\mathbf{B}_{236} =$ | $x_{118} \mathbf{a}_1 - y_{118} \mathbf{a}_2 + (z_{118} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{118} + c(z_{118} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{118} \hat{\mathbf{y}} + c(z_{118} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XCIV  |
| $\mathbf{B}_{237} =$ | $x_{119} \mathbf{a}_1 + y_{119} \mathbf{a}_2 + z_{119} \mathbf{a}_3$                 | $=$ | $(ax_{119} + cz_{119} \cos \beta) \hat{\mathbf{x}} + by_{119} \hat{\mathbf{y}} + cz_{119} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O XCV   |
| $\mathbf{B}_{238} =$ | $x_{119} \mathbf{a}_1 - y_{119} \mathbf{a}_2 + (z_{119} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{119} + c(z_{119} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{119} \hat{\mathbf{y}} + c(z_{119} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XCV   |
| $\mathbf{B}_{239} =$ | $x_{120} \mathbf{a}_1 + y_{120} \mathbf{a}_2 + z_{120} \mathbf{a}_3$                 | $=$ | $(ax_{120} + cz_{120} \cos \beta) \hat{\mathbf{x}} + by_{120} \hat{\mathbf{y}} + cz_{120} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | O XCVI  |
| $\mathbf{B}_{240} =$ | $x_{120} \mathbf{a}_1 - y_{120} \mathbf{a}_2 + (z_{120} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{120} + c(z_{120} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{120} \hat{\mathbf{y}} + c(z_{120} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | O XCVI  |
| $\mathbf{B}_{241} =$ | $x_{121} \mathbf{a}_1 + y_{121} \mathbf{a}_2 + z_{121} \mathbf{a}_3$                 | $=$ | $(ax_{121} + cz_{121} \cos \beta) \hat{\mathbf{x}} + by_{121} \hat{\mathbf{y}} + cz_{121} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P I     |
| $\mathbf{B}_{242} =$ | $x_{121} \mathbf{a}_1 - y_{121} \mathbf{a}_2 + (z_{121} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{121} + c(z_{121} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{121} \hat{\mathbf{y}} + c(z_{121} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P I     |
| $\mathbf{B}_{243} =$ | $x_{122} \mathbf{a}_1 + y_{122} \mathbf{a}_2 + z_{122} \mathbf{a}_3$                 | $=$ | $(ax_{122} + cz_{122} \cos \beta) \hat{\mathbf{x}} + by_{122} \hat{\mathbf{y}} + cz_{122} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P II    |
| $\mathbf{B}_{244} =$ | $x_{122} \mathbf{a}_1 - y_{122} \mathbf{a}_2 + (z_{122} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{122} + c(z_{122} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{122} \hat{\mathbf{y}} + c(z_{122} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P II    |
| $\mathbf{B}_{245} =$ | $x_{123} \mathbf{a}_1 + y_{123} \mathbf{a}_2 + z_{123} \mathbf{a}_3$                 | $=$ | $(ax_{123} + cz_{123} \cos \beta) \hat{\mathbf{x}} + by_{123} \hat{\mathbf{y}} + cz_{123} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P III   |
| $\mathbf{B}_{246} =$ | $x_{123} \mathbf{a}_1 - y_{123} \mathbf{a}_2 + (z_{123} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{123} + c(z_{123} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{123} \hat{\mathbf{y}} + c(z_{123} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P III   |
| $\mathbf{B}_{247} =$ | $x_{124} \mathbf{a}_1 + y_{124} \mathbf{a}_2 + z_{124} \mathbf{a}_3$                 | $=$ | $(ax_{124} + cz_{124} \cos \beta) \hat{\mathbf{x}} + by_{124} \hat{\mathbf{y}} + cz_{124} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P IV    |
| $\mathbf{B}_{248} =$ | $x_{124} \mathbf{a}_1 - y_{124} \mathbf{a}_2 + (z_{124} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{124} + c(z_{124} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{124} \hat{\mathbf{y}} + c(z_{124} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P IV    |
| $\mathbf{B}_{249} =$ | $x_{125} \mathbf{a}_1 + y_{125} \mathbf{a}_2 + z_{125} \mathbf{a}_3$                 | $=$ | $(ax_{125} + cz_{125} \cos \beta) \hat{\mathbf{x}} + by_{125} \hat{\mathbf{y}} + cz_{125} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P V     |
| $\mathbf{B}_{250} =$ | $x_{125} \mathbf{a}_1 - y_{125} \mathbf{a}_2 + (z_{125} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{125} + c(z_{125} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{125} \hat{\mathbf{y}} + c(z_{125} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P V     |

|                        |     |                                                                                      |     |                                                                                                                                                             |      |        |
|------------------------|-----|--------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|
| <b>B<sub>251</sub></b> | $=$ | $x_{126} \mathbf{a}_1 + y_{126} \mathbf{a}_2 + z_{126} \mathbf{a}_3$                 | $=$ | $(ax_{126} + cz_{126} \cos \beta) \hat{\mathbf{x}} + by_{126} \hat{\mathbf{y}} +$<br>$cz_{126} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P VI   |
| <b>B<sub>252</sub></b> | $=$ | $x_{126} \mathbf{a}_1 - y_{126} \mathbf{a}_2 + (z_{126} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{126} + c(z_{126} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{126} \hat{\mathbf{y}} +$<br>$c(z_{126} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P VI   |
| <b>B<sub>253</sub></b> | $=$ | $x_{127} \mathbf{a}_1 + y_{127} \mathbf{a}_2 + z_{127} \mathbf{a}_3$                 | $=$ | $(ax_{127} + cz_{127} \cos \beta) \hat{\mathbf{x}} + by_{127} \hat{\mathbf{y}} +$<br>$cz_{127} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P VII  |
| <b>B<sub>254</sub></b> | $=$ | $x_{127} \mathbf{a}_1 - y_{127} \mathbf{a}_2 + (z_{127} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{127} + c(z_{127} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{127} \hat{\mathbf{y}} +$<br>$c(z_{127} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P VII  |
| <b>B<sub>255</sub></b> | $=$ | $x_{128} \mathbf{a}_1 + y_{128} \mathbf{a}_2 + z_{128} \mathbf{a}_3$                 | $=$ | $(ax_{128} + cz_{128} \cos \beta) \hat{\mathbf{x}} + by_{128} \hat{\mathbf{y}} +$<br>$cz_{128} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P VIII |
| <b>B<sub>256</sub></b> | $=$ | $x_{128} \mathbf{a}_1 - y_{128} \mathbf{a}_2 + (z_{128} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{128} + c(z_{128} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{128} \hat{\mathbf{y}} +$<br>$c(z_{128} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P VIII |
| <b>B<sub>257</sub></b> | $=$ | $x_{129} \mathbf{a}_1 + y_{129} \mathbf{a}_2 + z_{129} \mathbf{a}_3$                 | $=$ | $(ax_{129} + cz_{129} \cos \beta) \hat{\mathbf{x}} + by_{129} \hat{\mathbf{y}} +$<br>$cz_{129} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P IX   |
| <b>B<sub>258</sub></b> | $=$ | $x_{129} \mathbf{a}_1 - y_{129} \mathbf{a}_2 + (z_{129} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{129} + c(z_{129} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{129} \hat{\mathbf{y}} +$<br>$c(z_{129} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P IX   |
| <b>B<sub>259</sub></b> | $=$ | $x_{130} \mathbf{a}_1 + y_{130} \mathbf{a}_2 + z_{130} \mathbf{a}_3$                 | $=$ | $(ax_{130} + cz_{130} \cos \beta) \hat{\mathbf{x}} + by_{130} \hat{\mathbf{y}} +$<br>$cz_{130} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P X    |
| <b>B<sub>260</sub></b> | $=$ | $x_{130} \mathbf{a}_1 - y_{130} \mathbf{a}_2 + (z_{130} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{130} + c(z_{130} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{130} \hat{\mathbf{y}} +$<br>$c(z_{130} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P X    |
| <b>B<sub>261</sub></b> | $=$ | $x_{131} \mathbf{a}_1 + y_{131} \mathbf{a}_2 + z_{131} \mathbf{a}_3$                 | $=$ | $(ax_{131} + cz_{131} \cos \beta) \hat{\mathbf{x}} + by_{131} \hat{\mathbf{y}} +$<br>$cz_{131} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P XI   |
| <b>B<sub>262</sub></b> | $=$ | $x_{131} \mathbf{a}_1 - y_{131} \mathbf{a}_2 + (z_{131} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{131} + c(z_{131} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{131} \hat{\mathbf{y}} +$<br>$c(z_{131} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P XI   |
| <b>B<sub>263</sub></b> | $=$ | $x_{132} \mathbf{a}_1 + y_{132} \mathbf{a}_2 + z_{132} \mathbf{a}_3$                 | $=$ | $(ax_{132} + cz_{132} \cos \beta) \hat{\mathbf{x}} + by_{132} \hat{\mathbf{y}} +$<br>$cz_{132} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P XII  |
| <b>B<sub>264</sub></b> | $=$ | $x_{132} \mathbf{a}_1 - y_{132} \mathbf{a}_2 + (z_{132} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{132} + c(z_{132} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{132} \hat{\mathbf{y}} +$<br>$c(z_{132} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P XII  |
| <b>B<sub>265</sub></b> | $=$ | $x_{133} \mathbf{a}_1 + y_{133} \mathbf{a}_2 + z_{133} \mathbf{a}_3$                 | $=$ | $(ax_{133} + cz_{133} \cos \beta) \hat{\mathbf{x}} + by_{133} \hat{\mathbf{y}} +$<br>$cz_{133} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P XIII |
| <b>B<sub>266</sub></b> | $=$ | $x_{133} \mathbf{a}_1 - y_{133} \mathbf{a}_2 + (z_{133} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{133} + c(z_{133} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{133} \hat{\mathbf{y}} +$<br>$c(z_{133} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P XIII |
| <b>B<sub>267</sub></b> | $=$ | $x_{134} \mathbf{a}_1 + y_{134} \mathbf{a}_2 + z_{134} \mathbf{a}_3$                 | $=$ | $(ax_{134} + cz_{134} \cos \beta) \hat{\mathbf{x}} + by_{134} \hat{\mathbf{y}} +$<br>$cz_{134} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P XIV  |
| <b>B<sub>268</sub></b> | $=$ | $x_{134} \mathbf{a}_1 - y_{134} \mathbf{a}_2 + (z_{134} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{134} + c(z_{134} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{134} \hat{\mathbf{y}} +$<br>$c(z_{134} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P XIV  |
| <b>B<sub>269</sub></b> | $=$ | $x_{135} \mathbf{a}_1 + y_{135} \mathbf{a}_2 + z_{135} \mathbf{a}_3$                 | $=$ | $(ax_{135} + cz_{135} \cos \beta) \hat{\mathbf{x}} + by_{135} \hat{\mathbf{y}} +$<br>$cz_{135} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P XV   |
| <b>B<sub>270</sub></b> | $=$ | $x_{135} \mathbf{a}_1 - y_{135} \mathbf{a}_2 + (z_{135} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{135} + c(z_{135} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{135} \hat{\mathbf{y}} +$<br>$c(z_{135} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$ | (2a) | P XV   |
| <b>B<sub>271</sub></b> | $=$ | $x_{136} \mathbf{a}_1 + y_{136} \mathbf{a}_2 + z_{136} \mathbf{a}_3$                 | $=$ | $(ax_{136} + cz_{136} \cos \beta) \hat{\mathbf{x}} + by_{136} \hat{\mathbf{y}} +$<br>$cz_{136} \sin \beta \hat{\mathbf{z}}$                                 | (2a) | P XVI  |
| <b>B<sub>272</sub></b> | $=$ | $x_{136} \mathbf{a}_1 - y_{136} \mathbf{a}_2 + (z_{136} + \frac{1}{2}) \mathbf{a}_3$ | $=$ | $(ax_{136} + c(z_{136$                                                                                                                                      |      |        |

$$\begin{aligned}
\mathbf{B}_{274} &= x_{137} \mathbf{a}_1 - y_{137} \mathbf{a}_2 + \left(z_{137} + \frac{1}{2}\right) \mathbf{a}_3 = \begin{pmatrix} ax_{137} + c \left(z_{137} + \frac{1}{2}\right) \cos \beta \\ c \left(z_{137} + \frac{1}{2}\right) \sin \beta \end{pmatrix} \hat{\mathbf{x}} - by_{137} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XVII} \\
\mathbf{B}_{275} &= x_{138} \mathbf{a}_1 + y_{138} \mathbf{a}_2 + z_{138} \mathbf{a}_3 = \begin{pmatrix} ax_{138} + cz_{138} \cos \beta \\ cz_{138} \sin \beta \end{pmatrix} \hat{\mathbf{x}} + by_{138} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XVIII} \\
\mathbf{B}_{276} &= x_{138} \mathbf{a}_1 - y_{138} \mathbf{a}_2 + \left(z_{138} + \frac{1}{2}\right) \mathbf{a}_3 = \begin{pmatrix} ax_{138} + c \left(z_{138} + \frac{1}{2}\right) \cos \beta \\ c \left(z_{138} + \frac{1}{2}\right) \sin \beta \end{pmatrix} \hat{\mathbf{x}} - by_{138} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XVIII} \\
\mathbf{B}_{277} &= x_{139} \mathbf{a}_1 + y_{139} \mathbf{a}_2 + z_{139} \mathbf{a}_3 = \begin{pmatrix} ax_{139} + cz_{139} \cos \beta \\ cz_{139} \sin \beta \end{pmatrix} \hat{\mathbf{x}} + by_{139} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XIX} \\
\mathbf{B}_{278} &= x_{139} \mathbf{a}_1 - y_{139} \mathbf{a}_2 + \left(z_{139} + \frac{1}{2}\right) \mathbf{a}_3 = \begin{pmatrix} ax_{139} + c \left(z_{139} + \frac{1}{2}\right) \cos \beta \\ c \left(z_{139} + \frac{1}{2}\right) \sin \beta \end{pmatrix} \hat{\mathbf{x}} - by_{139} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XIX} \\
\mathbf{B}_{279} &= x_{140} \mathbf{a}_1 + y_{140} \mathbf{a}_2 + z_{140} \mathbf{a}_3 = \begin{pmatrix} ax_{140} + cz_{140} \cos \beta \\ cz_{140} \sin \beta \end{pmatrix} \hat{\mathbf{x}} + by_{140} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XX} \\
\mathbf{B}_{280} &= x_{140} \mathbf{a}_1 - y_{140} \mathbf{a}_2 + \left(z_{140} + \frac{1}{2}\right) \mathbf{a}_3 = \begin{pmatrix} ax_{140} + c \left(z_{140} + \frac{1}{2}\right) \cos \beta \\ c \left(z_{140} + \frac{1}{2}\right) \sin \beta \end{pmatrix} \hat{\mathbf{x}} - by_{140} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XX} \\
\mathbf{B}_{281} &= x_{141} \mathbf{a}_1 + y_{141} \mathbf{a}_2 + z_{141} \mathbf{a}_3 = \begin{pmatrix} ax_{141} + cz_{141} \cos \beta \\ cz_{141} \sin \beta \end{pmatrix} \hat{\mathbf{x}} + by_{141} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XXI} \\
\mathbf{B}_{282} &= x_{141} \mathbf{a}_1 - y_{141} \mathbf{a}_2 + \left(z_{141} + \frac{1}{2}\right) \mathbf{a}_3 = \begin{pmatrix} ax_{141} + c \left(z_{141} + \frac{1}{2}\right) \cos \beta \\ c \left(z_{141} + \frac{1}{2}\right) \sin \beta \end{pmatrix} \hat{\mathbf{x}} - by_{141} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XXI} \\
\mathbf{B}_{283} &= x_{142} \mathbf{a}_1 + y_{142} \mathbf{a}_2 + z_{142} \mathbf{a}_3 = \begin{pmatrix} ax_{142} + cz_{142} \cos \beta \\ cz_{142} \sin \beta \end{pmatrix} \hat{\mathbf{x}} + by_{142} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XXII} \\
\mathbf{B}_{284} &= x_{142} \mathbf{a}_1 - y_{142} \mathbf{a}_2 + \left(z_{142} + \frac{1}{2}\right) \mathbf{a}_3 = \begin{pmatrix} ax_{142} + c \left(z_{142} + \frac{1}{2}\right) \cos \beta \\ c \left(z_{142} + \frac{1}{2}\right) \sin \beta \end{pmatrix} \hat{\mathbf{x}} - by_{142} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XXII} \\
\mathbf{B}_{285} &= x_{143} \mathbf{a}_1 + y_{143} \mathbf{a}_2 + z_{143} \mathbf{a}_3 = \begin{pmatrix} ax_{143} + cz_{143} \cos \beta \\ cz_{143} \sin \beta \end{pmatrix} \hat{\mathbf{x}} + by_{143} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XXIII} \\
\mathbf{B}_{286} &= x_{143} \mathbf{a}_1 - y_{143} \mathbf{a}_2 + \left(z_{143} + \frac{1}{2}\right) \mathbf{a}_3 = \begin{pmatrix} ax_{143} + c \left(z_{143} + \frac{1}{2}\right) \cos \beta \\ c \left(z_{143} + \frac{1}{2}\right) \sin \beta \end{pmatrix} \hat{\mathbf{x}} - by_{143} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XXIII} \\
\mathbf{B}_{287} &= x_{144} \mathbf{a}_1 + y_{144} \mathbf{a}_2 + z_{144} \mathbf{a}_3 = \begin{pmatrix} ax_{144} + cz_{144} \cos \beta \\ cz_{144} \sin \beta \end{pmatrix} \hat{\mathbf{x}} + by_{144} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XXIV} \\
\mathbf{B}_{288} &= x_{144} \mathbf{a}_1 - y_{144} \mathbf{a}_2 + \left(z_{144} + \frac{1}{2}\right) \mathbf{a}_3 = \begin{pmatrix} ax_{144} + c \left(z_{144} + \frac{1}{2}\right) \cos \beta \\ c \left(z_{144} + \frac{1}{2}\right) \sin \beta \end{pmatrix} \hat{\mathbf{x}} - by_{144} \hat{\mathbf{y}} + \quad (2a) \quad \text{P XXIV}
\end{aligned}$$

## References

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