

Blue axes = wein2k coordinate

Green axes = STD coordinate

$$\begin{cases} \vec{a}_w \\ \vec{b}_w \\ \vec{c}_w \end{cases} \text{ wein2k lattice vectors}$$

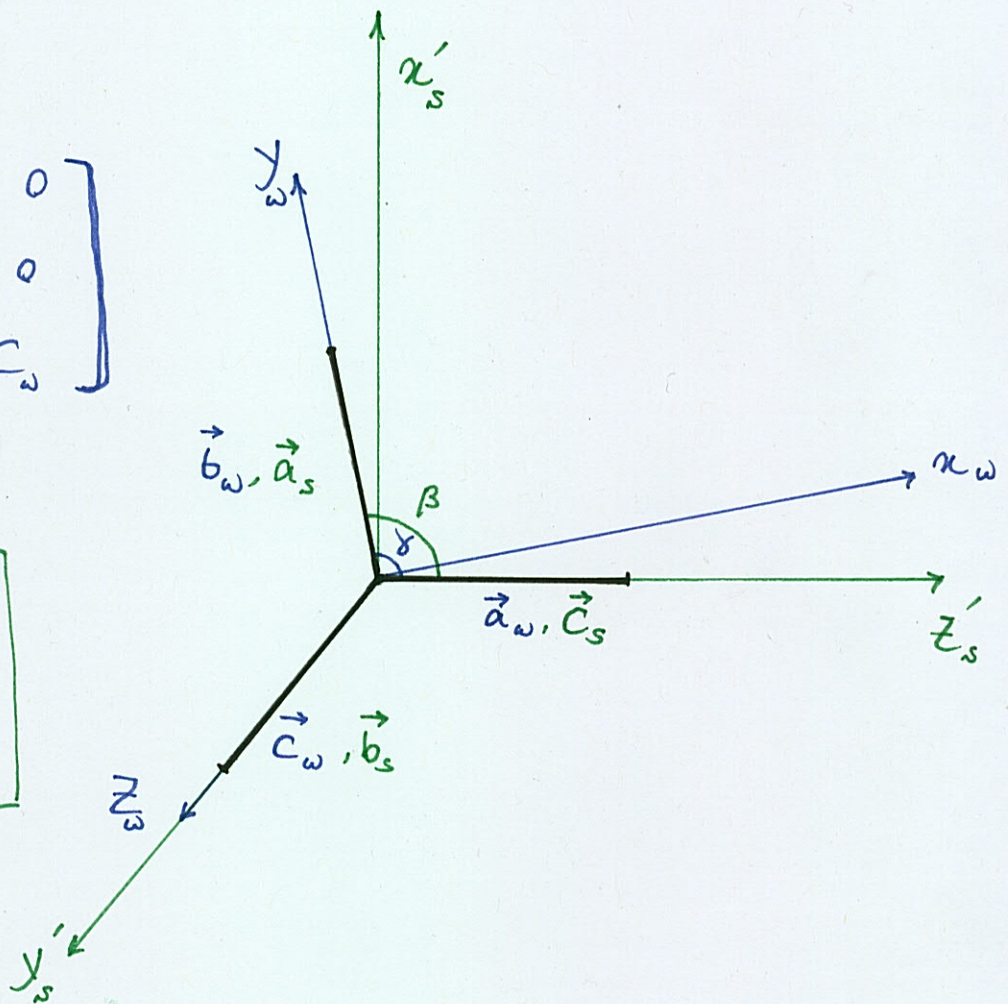
$$\begin{cases} \vec{a}_s \\ \vec{b}_s \\ \vec{c}_s \end{cases} \text{ STD lattice vectors}$$

wein2k:

$$\begin{bmatrix} a_w \sin \delta & a_w \cos \delta & 0 \\ 0 & b_w & 0 \\ 0 & 0 & c_w \end{bmatrix}$$

STD:

$$\begin{bmatrix} a_s \cos \beta & 0 & a_s \sin \beta \\ 0 & b_s & 0 \\ 0 & 0 & c_s \end{bmatrix}$$



T : Transformation matrix from wein2k to STD coordinates.

$$T = \begin{pmatrix} \hat{i}_s \cdot \hat{i}_w & \hat{i}_s \cdot \hat{j}_w & \hat{i}_s \cdot \hat{k}_w \\ \hat{j}_s \cdot \hat{i}_w & \hat{j}_s \cdot \hat{j}_w & \hat{j}_s \cdot \hat{k}_w \\ \hat{k}_s \cdot \hat{i}_w & \hat{k}_s \cdot \hat{j}_w & \hat{k}_s \cdot \hat{k}_w \end{pmatrix} = \begin{pmatrix} \text{I think not} \\ \text{is clear.} \end{pmatrix}$$