# MPG No. 25.5.150 $6'mm'$ (6'm'm setting) [ Type III, hexagonal ] [T tensor]

* Rank 0 tensor. * Rank 1 tensor. * Rank 2 tensor (s). * Rank 2 tensor (a). * Rank 3 tensor (s).

$$\begin{bmatrix} T_{xxx} & 0 & 0 \\ -T_{xxx} & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & -T_{xxx} & 0 \end{bmatrix}$$

$T_{xxx} = T_{f2}^{(1)}$

* Rank 3 tensor (a). * Rank 4 tensor (sss).

$$\begin{bmatrix} 0 & 0 & 0 & 0 & T_{xxzx} & 0 \\ 0 & 0 & 0 & 0 & -T_{xxzx} & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -T_{xxzx} \\ T_{xxzx} & -T_{xxzx} & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -T_{xxzx} & 0 & 0 \end{bmatrix}$$

$T_{xxzx} = T_{ga}^{(1)}$

* Rank 4 tensor (ssa).

$$\begin{bmatrix} 0 & 0 & 0 & 0 & T_{xxzx} & 0 \\ 0 & 0 & 0 & 0 & -T_{xxzx} & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & T_{xxzx} \\ -T_{xxzx} & T_{xxzx} & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -T_{xxzx} & 0 & 0 \end{bmatrix}$$

$T_{xxzx} = -2M_{f1}^{(1)}$

* Rank 4 tensor (aas). * Rank 4 tensor (aaa). * Rank 4 tensor (sa).

$$\begin{bmatrix} 0 & T_{xxzx} & 0 \\ 0 & -T_{xxzx} & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ T_{xxzx} & 0 & 0 \end{bmatrix}$$

$T_{xxzx} = M_{f1}^{(2)}$

* Rank 4 tensor (as).

$$\begin{bmatrix} 0 & 0 & 0 & 0 & 0 & T_{yzxy} \\ T_{yzxy} & -T_{yzxy} & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

$T_{yzxy} = M_{f1}^{(3)}$

* Rank 4 tensor (s).

$$\begin{bmatrix} 0 & 0 & 0 & 0 & T_{xxzx} & 0 & 0 & T_{xxxz} & 0 \\ 0 & 0 & 0 & 0 & -T_{xxzx} & 0 & 0 & -T_{xxxz} & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & T_{yzxy} & 0 & 0 & T_{yzxy} \\ -T_{yzxy} & T_{yzxy} & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -T_{xxxz} & 0 & 0 & -T_{xxzx} & 0 & 0 \end{bmatrix}$$

$$T_{xxzx} = -2M_{f1}^{(1)} + M_{f1}^{(2)} + T_{ga}^{(1)}$$
$$T_{xxxz} = -2M_{f1}^{(1)} - M_{f1}^{(2)} + T_{ga}^{(1)}$$
$$T_{yzxy} = -2M_{f1}^{(1)} - T_{ga}^{(1)}$$

* Rank 4 tensor (a).

$$\begin{bmatrix} 0 & 0 & 0 & 0 & 0 & T_{yzxy} & 0 & 0 & T_{yzxy} \\ T_{yzxy} & -T_{yzxy} & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

$$T_{yzxy} = M_{f1}^{(3)}$$

* Rank 4 tensor (t).

$$\begin{bmatrix} 0 & 0 & T_{xxxz} \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ -T_{xxxz} & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ T_{xxxz} & 0 & 0 \\ 0 & 0 & -T_{xxxz} \\ 0 & -T_{xxxz} & 0 \end{bmatrix}$$

$$T_{xxxz} = T_{ga}^{(1)}$$