MPG No. 27.4.103 $6'/mmm'$ (6'/mmm' setting) [Type III, hexagonal] [M tensor]

* Rank 0 tensor. * Rank 1 tensor. * Rank 2 tensor (s). * Rank 2 tensor (a). * Rank 3 tensor (s). * Rank 3 tensor (a). * Rank 4 tensor (sss).

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

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

* Rank 4 tensor (ssa).

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

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

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

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

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

* Rank 4 tensor (as).

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

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

* Rank 4 tensor (s).

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

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

* Rank 4 tensor (a).

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

$$M_{yzxy} = T^{(3)}_{f1}$$

* Rank 4 tensor (t).

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

$$M_{xxxz} = M^{(1)}_{ga}$$