

MPG No. 26.4.98  $\bar{6}'m2'$  (-6'm2' setting) [ Type III, hexagonal ] [M tensor]

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

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

$$M_{xy} = T_{pz}^{(1)}$$

\* Rank 3 tensor (s).

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

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

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

$$\begin{bmatrix} 0 & 0 & 0 & 0 & 0 & M_{xxxy} \\ 0 & 0 & 0 & 0 & 0 & -M_{xxxy} \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & M_{yzzx} & 0 \\ 0 & 0 & 0 & -M_{yzzx} & 0 & 0 \\ -M_{xxxy} & M_{xxxy} & 0 & 0 & 0 & 0 \end{bmatrix}$$

$$M_{xxxy} = -2T_{faz}^{(1)} + 2T_{pz}^{(1)}$$

$$M_{yzzx} = -4T_{faz}^{(1)} - T_{pz}^{(1)}$$

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

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

$$M_{yzzx} = -T_{pz}^{(2)}$$

\* Rank 4 tensor (sa).

$$\begin{bmatrix} 0 & 0 & M_{xxxy} \\ 0 & 0 & M_{xxxy} \\ 0 & 0 & M_{zzxy} \\ 0 & M_{yzzx} & 0 \\ M_{yzzx} & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$$

$$M_{xxxy} = -T_{faz}^{(2)} + T_{pz}^{(3)}$$

$$M_{zzxy} = 2T_{faz}^{(2)} + T_{pz}^{(3)} + 2T_{pz}^{(4)}$$

$$M_{yzzx} = -T_{faz}^{(2)} + T_{pz}^{(4)}$$

\* Rank 4 tensor (as).

$$\begin{bmatrix} 0 & 0 & 0 & 0 & M_{yzzx} & 0 \\ 0 & 0 & 0 & M_{yzzx} & 0 & 0 \\ M_{xyxx} & M_{xyxx} & M_{xyzz} & 0 & 0 & 0 \end{bmatrix}$$

$$\begin{aligned}
M_{yzzx} &= -T_{faz}^{(3)} + T_{pz}^{(6)} \\
M_{xyxx} &= -T_{faz}^{(3)} + T_{pz}^{(5)} \\
M_{xyzx} &= 2T_{faz}^{(3)} + T_{pz}^{(5)} + 2T_{pz}^{(6)}
\end{aligned}$$

\* Rank 4 tensor (s).

$$\begin{bmatrix}
0 & 0 & 0 & 0 & 0 & M_{xxxy} & 0 & 0 & M_{xxyx} \\
0 & 0 & 0 & 0 & 0 & -M_{xxyx} & 0 & 0 & -M_{xxxy} \\
0 & 0 & 0 & 0 & 0 & M_{zzxy} & 0 & 0 & -M_{zzxy} \\
0 & 0 & 0 & 0 & M_{yzxz} & 0 & 0 & M_{yzxz} & 0 \\
0 & 0 & 0 & -M_{yzxz} & 0 & 0 & -M_{yzxz} & 0 & 0 \\
-\frac{M_{xxxy}}{2} - \frac{M_{xxyx}}{2} & \frac{M_{xxxy}}{2} + \frac{M_{xxyx}}{2} & 0 & 0 & 0 & 0 & 0 & 0 & 0
\end{bmatrix}$$

$$\begin{aligned}
M_{xxxy} &= -2T_{faz}^{(1)} - T_{faz}^{(2)} + 2T_{pz}^{(1)} + T_{pz}^{(3)} \\
M_{xxyx} &= -2T_{faz}^{(1)} + T_{faz}^{(2)} + 2T_{pz}^{(1)} - T_{pz}^{(3)} \\
M_{zzxy} &= 2T_{faz}^{(2)} + T_{pz}^{(3)} + 2T_{pz}^{(4)} \\
M_{yzxz} &= -4T_{faz}^{(1)} - T_{faz}^{(2)} - T_{pz}^{(1)} + T_{pz}^{(4)} \\
M_{yzxz} &= -4T_{faz}^{(1)} + T_{faz}^{(2)} - T_{pz}^{(1)} - T_{pz}^{(4)}
\end{aligned}$$

\* Rank 4 tensor (a).

$$\begin{bmatrix}
0 & 0 & 0 & 0 & M_{yzxz} & 0 & 0 & M_{yzxz} & 0 \\
0 & 0 & 0 & M_{yzxz} & 0 & 0 & M_{yzxz} & 0 & 0 \\
M_{xxyx} & M_{xxyx} & M_{xxyz} & 0 & 0 & 0 & 0 & 0 & 0
\end{bmatrix}$$

$$\begin{aligned}
M_{yzzx} &= -T_{faz}^{(3)} - T_{pz}^{(2)} + T_{pz}^{(6)} \\
M_{yzxz} &= -T_{faz}^{(3)} + T_{pz}^{(2)} + T_{pz}^{(6)} \\
M_{xyxx} &= -T_{faz}^{(3)} + T_{pz}^{(5)} \\
M_{xyzx} &= 2T_{faz}^{(3)} + T_{pz}^{(5)} + 2T_{pz}^{(6)}
\end{aligned}$$

\* Rank 4 tensor (t).