

MPG No. 2.1.3 $\bar{1}$ [Type I, triclinic] [M tensor]

* Rank 0 tensor. * Rank 1 tensor.

$$[M_x \quad M_y \quad M_z]$$

$$M_x = M_{px}^{(1)}$$

$$M_y = M_{py}^{(1)}$$

$$M_z = M_{pz}^{(1)}$$

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

$$\begin{bmatrix} M_{xxx} & M_{xxy} & M_{xxz} \\ M_{yyx} & M_{yyy} & M_{yyz} \\ M_{zzx} & M_{zzy} & M_{zzz} \\ M_{yzx} & M_{yzy} & M_{yzz} \\ M_{zxz} & M_{zxy} & M_{zxz} \\ M_{xyx} & M_{xyy} & M_{xyz} \end{bmatrix}$$

$$M_{xxx} = 2M_{fax}^{(1)} + M_{px}^{(1)} + 2M_{px}^{(2)}$$

$$M_{xxy} = -M_{fay}^{(1)} - M_{fbz}^{(1)} + M_{py}^{(1)} + 2T_{dxz}^{(1)}$$

$$M_{xxz} = -M_{faz}^{(1)} + M_{fbz}^{(1)} + M_{pz}^{(1)} - 2T_{dxy}^{(1)}$$

$$M_{yyx} = -M_{fax}^{(1)} + M_{fbz}^{(1)} + M_{px}^{(1)} - 2T_{dyz}^{(1)}$$

$$M_{yyy} = 2M_{fay}^{(1)} + M_{py}^{(1)} + 2M_{py}^{(2)}$$

$$M_{yyz} = -M_{faz}^{(1)} - M_{fbz}^{(1)} + M_{pz}^{(1)} + 2T_{dxy}^{(1)}$$

$$M_{zzx} = -M_{fax}^{(1)} - M_{fbx}^{(1)} + M_{px}^{(1)} + 2T_{dyz}^{(1)}$$

$$M_{zzy} = -M_{fay}^{(1)} + M_{fbz}^{(1)} + M_{py}^{(1)} - 2T_{dxz}^{(1)}$$

$$M_{zzz} = 2M_{faz}^{(1)} + M_{pz}^{(1)} + 2M_{pz}^{(2)}$$

$$M_{yzz} = M_{f3}^{(1)} - 3T_{du}^{(1)} - T_{dv}^{(1)}$$

$$M_{yzy} = -M_{faz}^{(1)} - M_{fbz}^{(1)} + M_{pz}^{(2)} - T_{dxy}^{(1)}$$

$$M_{yzz} = -M_{fay}^{(1)} + M_{fbz}^{(1)} + M_{py}^{(2)} + T_{dxx}^{(1)}$$

$$M_{zzx} = -M_{faz}^{(1)} + M_{fbz}^{(1)} + M_{pz}^{(2)} + T_{dxy}^{(1)}$$

$$M_{zxy} = M_{f3}^{(1)} + 3T_{du}^{(1)} - T_{dv}^{(1)}$$

$$M_{zzz} = -M_{fax}^{(1)} - M_{fbx}^{(1)} + M_{px}^{(2)} - T_{dyz}^{(1)}$$

$$M_{xyx} = -M_{fay}^{(1)} - M_{fbz}^{(1)} + M_{py}^{(2)} - T_{dxz}^{(1)}$$

$$M_{xyy} = -M_{fax}^{(1)} + M_{fbz}^{(1)} + M_{px}^{(2)} + T_{dyz}^{(1)}$$

$$M_{xyz} = M_{f3}^{(1)} + 2T_{dv}^{(1)}$$

* Rank 3 tensor (a).

$$\begin{bmatrix} M_{yzx} & M_{yzy} & M_{yzz} \\ M_{zxx} & M_{zxy} & M_{zxz} \\ M_{xyx} & M_{xyy} & M_{xyz} \end{bmatrix}$$

$$M_{yzx} = -T_{du}^{(2)} + T_{dv}^{(2)} + T_s^{(1)}$$

$$M_{yzy} = M_{pz}^{(3)} + T_{dxy}^{(2)}$$

$$M_{yzz} = -M_{py}^{(3)} + T_{dxz}^{(2)}$$

$$M_{zxx} = -M_{pz}^{(3)} + T_{dxy}^{(2)}$$

$$M_{zxy} = -T_{du}^{(2)} - T_{dv}^{(2)} + T_s^{(1)}$$

$$M_{zxz} = M_{px}^{(3)} + T_{dyz}^{(2)}$$

$$M_{xyx} = M_{py}^{(3)} + T_{dxz}^{(2)}$$

$$M_{xyy} = -M_{px}^{(3)} + T_{dyz}^{(2)}$$

$$M_{xyz} = 2T_{du}^{(2)} + T_s^{(1)}$$

* Rank 4 tensor (sss). * Rank 4 tensor (ssa). * Rank 4 tensor (aas). * Rank 4 tensor (aaa). * Rank 4 tensor (sa). * Rank 4 tensor (as). * Rank 4 tensor (s). * Rank 4 tensor (a). * Rank 4 tensor (t).