* Rank 0 tensor.

$$[M]$$

$$M = M_s^{(1)}$$

* Rank 1 tensor.

$$\begin{bmatrix} 0 & 0 & M_z \end{bmatrix}$$

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

* Rank 2 tensor (s).

$$\begin{bmatrix} M_{xx} & 0 & 0 \\ 0 & M_{xx} & 0 \\ 0 & 0 & M_{zz} \end{bmatrix}$$

$$M_{xx} = -M_{du}^{(1)} + M_s^{(1)}$$
$$M_{zz} = 2M_{du}^{(1)} + M_s^{(1)}$$

* 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).

$$\begin{bmatrix} M_{xxx} & M_{xxy} & M_{xxz} \\ -M_{xxx} & -M_{xxy} & M_{xxz} \\ 0 & 0 & M_{zzz} \\ M_{yzx} & M_{yzy} & 0 \\ M_{yzy} & -M_{yzx} & 0 \\ M_{xxy} & -M_{xxx} & 0 \end{bmatrix}$$

$$M_{xxx} = M_{f2}^{(1)}$$
$$M_{xxy} = M_{f1}^{(1)}$$
$$M_{xxz} = -M_{faz}^{(1)} + M_{pz}^{(1)}$$
$$M_{zzz} = 2M_{faz}^{(1)} + M_{pz}^{(1)} + 2M_{pz}^{(2)}$$
$$M_{yzx} = -3T_{du}^{(1)}$$
$$M_{yzy} = -M_{faz}^{(1)} + M_{pz}^{(2)}$$

* Rank 3 tensor (a).

$$\begin{bmatrix} M_{yzx} & M_{yzy} & 0 \\ -M_{yzy} & M_{yzx} & 0 \\ 0 & 0 & M_{xyz} \end{bmatrix}$$

$$M_{yzx} = -T_{du}^{(2)} + T_s^{(1)}$$
$$M_{yzy} = M_{pz}^{(3)}$$
$$M_{xyz} = 2T_{du}^{(2)} + T_s^{(1)}$$

* Rank 4 tensor (sss).

$$\begin{bmatrix} M_{xxxx} & M_{xxyy} & M_{xxzz} & M_{xxyz} & M_{xxzx} & 0 \\ M_{xxyy} & M_{xxxx} & M_{xxzz} & -M_{xxyz} & -M_{xxzx} & 0 \\ M_{xxzz} & M_{xxzz} & M_{zzzz} & 0 & 0 & 0 \\ M_{xxyz} & -M_{xxyz} & 0 & M_{yzyz} & 0 & -M_{xxzx} \\ M_{xxzx} & -M_{xxzx} & 0 & 0 & M_{yzyz} & M_{xxyz} \\ 0 & 0 & 0 & -M_{xxzx} & M_{xxyz} & \frac{M_{xxxx}}{2} - \frac{M_{xxyy}}{2} \end{bmatrix}$$

$$M_{xxxx} = -2M_{du}^{(1)} - 4M_{du}^{(2)} + 3M_{g0}^{(1)} + M_s^{(1)} + 2M_s^{(2)}$$

$$M_{xxyy} = -2M_{du}^{(1)} + M_{g0}^{(1)} + M_s^{(1)}$$

$$M_{xxzz} = M_{du}^{(1)} - 4M_{g0}^{(1)} + M_s^{(1)}$$

$$M_{xxyz} = M_{gb}^{(1)}$$

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

$$M_{zzzz} = 4M_{du}^{(1)} + 8M_{du}^{(2)} + 8M_{g0}^{(1)} + M_s^{(1)} + 2M_s^{(2)}$$

$$M_{yzyz} = M_{du}^{(2)} - 4M_{g0}^{(1)} + M_s^{(2)}$$

* Rank 4 tensor (ssa).

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

$$M_{xxzz} = 3M_{du}^{(3)}$$

$$M_{xxyz} = 2T_{f2}^{(1)}$$

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

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

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

* Rank 4 tensor (aas).

$$\begin{bmatrix} M_{yzyz} & 0 & 0 \\ 0 & M_{yzyz} & 0 \\ 0 & 0 & M_{xyxy} \end{bmatrix}$$

$$M_{yzyz} = -2M_{du}^{(4)} + M_s^{(3)}$$

$$M_{xyxy} = 4M_{du}^{(4)} + M_s^{(3)}$$

* 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).

$$\begin{bmatrix} M_{xxyz} & M_{xxzx} & M_{xxxy} \\ -M_{xxyz} & -M_{xxzx} & M_{xxxy} \\ 0 & 0 & M_{zzxy} \\ M_{yzyz} & M_{yzzx} & 0 \\ M_{yzzx} & -M_{yzyz} & 0 \\ M_{xxzx} & -M_{xxyz} & 0 \end{bmatrix}$$

$$M_{xxyz} = T_{f2}^{(2)}$$

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

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

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

$$M_{yzyz} = -3M_{du}^{(5)}$$

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

* Rank 4 tensor (as).

$$
\begin{bmatrix}
M_{yzxx} & -M_{yzxx} & 0 & M_{yzyz} & M_{yzzx} & M_{yzxy} \\
M_{yzxy} & -M_{yzxy} & 0 & M_{yzzx} & -M_{yzyz} & -M_{yzxx} \\
M_{xyxx} & M_{xyxx} & M_{xyzz} & 0 & 0 & 0
\end{bmatrix}
$$

$$M_{yzxx} = T_{f2}^{(3)}$$

$$M_{yzyz} = -3M_{du}^{(6)}$$

$$M_{yzzz} = -T_{faz}^{(3)} + T_{pz}^{(6)}$$

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

$$M_{xyxx} = -T_{faz}^{(3)} + T_{pz}^{(5)}$$

$$M_{xyzz} = 2T_{faz}^{(3)} + T_{pz}^{(5)} + 2T_{pz}^{(6)}$$

* Rank 4 tensor (s).

$$
\begin{bmatrix}
M_{xxxx} & M_{xxyy} & M_{xxzz} & M_{xxyz} & M_{xxzx} & M_{xxxy} & M_{xxzy} & M_{xxxz} & M_{xxyx} \\
M_{xxyy} & M_{xxxx} & M_{xxzz} & -M_{xxyz} & -M_{xxzx} & -M_{xxyx} & -M_{xxzy} & -M_{xxxz} & -M_{xxxy} \\
M_{zzxx} & M_{zzxx} & M_{zzzz} & 0 & 0 & M_{zzxy} & 0 & 0 & -M_{zzxy} \\
M_{yzxx} & -M_{yzxx} & 0 & M_{yzyz} & M_{yzzx} & M_{yzxy} & M_{yzzy} & M_{yzxz} & M_{yzxy} \\
-M_{yzxy} & M_{yzxy} & 0 & -M_{yzxz} & M_{yzzy} & M_{yzxx} & -M_{yzzx} & M_{yzyz} & M_{yzxx} \\
-\frac{M_{xxxy}}{2} - \frac{M_{xxyx}}{2} & \frac{M_{xxxy}}{2} + \frac{M_{xxyx}}{2} & 0 & -M_{xxxz} & M_{xxzy} & \frac{M_{xxxx}}{2} - \frac{M_{xxyy}}{2} & -M_{xxzx} & M_{xxyz} & \frac{M_{xxxx}}{2} - \frac{M_{xxyy}}{2}
\end{bmatrix}
$$

$$M_{xxxx} = -2M_{du}^{(1)} - 4M_{du}^{(2)} + 3M_{g0}^{(1)} + M_s^{(1)} + 2M_s^{(2)}$$

$$M_{xxyy} = -2M_{du}^{(1)} + M_{g0}^{(1)} + M_s^{(1)}$$

$$M_{xxzz} = M_{du}^{(1)} + 3M_{du}^{(3)} - 4M_{g0}^{(1)} + M_s^{(1)}$$

$$M_{xxyz} = M_{gb}^{(1)} + 2T_{f2}^{(1)} + T_{f2}^{(2)}$$

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

$$M_{xxxy} = -2T_{faz}^{(1)} - T_{faz}^{(2)} + 2T_{pz}^{(1)} + T_{pz}^{(3)}$$

$$M_{xxzy} = M_{gb}^{(1)} + 2T_{f2}^{(1)} - T_{f2}^{(2)}$$

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

$$M_{xxyx} = -2T_{faz}^{(1)} + T_{faz}^{(2)} + 2T_{pz}^{(1)} - T_{pz}^{(3)}$$

$$M_{zzxx} = M_{du}^{(1)} - 3M_{du}^{(3)} - 4M_{g0}^{(1)} + M_s^{(1)}$$

$$M_{zzzz} = 4M_{du}^{(1)} + 8M_{du}^{(2)} + 8M_{g0}^{(1)} + M_s^{(1)} + 2M_s^{(2)}$$

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

$$M_{yzxx} = M_{gb}^{(1)} - 2T_{f2}^{(1)}$$

$$M_{yzyz} = M_{du}^{(2)} - 3M_{du}^{(5)} - 4M_{g0}^{(1)} + M_s^{(2)}$$

$$M_{yzzx} = -4T_{faz}^{(1)} - T_{faz}^{(2)} - T_{pz}^{(1)} + T_{pz}^{(4)}$$

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

$$M_{yzzy} = M_{du}^{(2)} + 3M_{du}^{(5)} - 4M_{g0}^{(1)} + M_s^{(2)}$$

$$M_{yzxz} = -4T_{faz}^{(1)} + T_{faz}^{(2)} - T_{pz}^{(1)} - T_{pz}^{(4)}$$

* Rank 4 tensor (a).

$$\begin{bmatrix} M_{yzxx} & -M_{yzxx} & 0 & M_{yzyz} & M_{yzzx} & M_{yzxy} & M_{yzzy} & M_{yzxz} & M_{yzxy} \\ M_{yzxy} & -M_{yzxy} & 0 & M_{yzxz} & -M_{yzzy} & -M_{yzxx} & M_{yzzx} & -M_{yzyz} & -M_{yzxx} \\ M_{xyxx} & M_{xyxx} & M_{xyzz} & 0 & 0 & M_{xyxy} & 0 & 0 & -M_{xyxy} \end{bmatrix}$$

$$M_{yzxx} = T^{(3)}_{f2}$$
$$M_{yzyz} = -2M^{(4)}_{du} - 3M^{(6)}_{du} + M^{(3)}_{s}$$
$$M_{yzzx} = -T^{(3)}_{faz} - T^{(2)}_{pz} + T^{(6)}_{pz}$$
$$M_{yzxy} = T^{(3)}_{f1}$$
$$M_{yzzy} = 2M^{(4)}_{du} - 3M^{(6)}_{du} - M^{(3)}_{s}$$
$$M_{yzxz} = -T^{(3)}_{faz} + T^{(2)}_{pz} + T^{(6)}_{pz}$$
$$M_{xyxx} = -T^{(3)}_{faz} + T^{(5)}_{pz}$$
$$M_{xyzz} = 2T^{(3)}_{faz} + T^{(5)}_{pz} + 2T^{(6)}_{pz}$$
$$M_{xyxy} = 4M^{(4)}_{du} + M^{(3)}_{s}$$

* Rank 4 tensor (t).

$$\begin{bmatrix} M_{xxxx} & 0 & M_{xxxz} \\ 0 & M_{xxxx} & M_{yyyz} \\ 0 & 0 & M_{zzzz} \\ -M_{xxxz} & M_{yyyz} & M_{yyzz} \\ M_{zzxx} & 0 & 0 \\ 0 & M_{xxyy} & -M_{yyyz} \\ 0 & M_{yzzy} & 0 \\ M_{xxxz} & -M_{yyyz} & -\frac{M_{xxxx}}{2} + \frac{3M_{xxyy}}{2} + M_{yyzz} - M_{yzzy} + M_{zzxx} \\ \frac{M_{xxxx}}{2} - \frac{M_{xxyy}}{2} & 0 & -M_{xxxz} \\ -M_{yyyz} & -M_{xxxz} & 0 \end{bmatrix}$$

$$M_{xxxx} = -2M^{(1)}_{du} - 4M^{(2)}_{du} + 3M^{(1)}_{g0} + 3M^{(1)}_{s}$$
$$M_{xxxz} = M^{(1)}_{ga}$$
$$M_{yyyz} = -M^{(1)}_{gb}$$
$$M_{zzzz} = 4M^{(1)}_{du} + 8M^{(2)}_{du} + 8M^{(1)}_{g0} + 3M^{(1)}_{s}$$
$$M_{yyzz} = M^{(1)}_{du} + 3M^{(3)}_{du} - 4M^{(1)}_{g0} + M^{(1)}_{s}$$
$$M_{zzxx} = M^{(1)}_{du} - 3M^{(3)}_{du} - 4M^{(1)}_{g0} + M^{(1)}_{s}$$
$$M_{xxyy} = -2M^{(1)}_{du} + M^{(1)}_{g0} + M^{(1)}_{s}$$
$$M_{yzzy} = M^{(2)}_{du} + 3M^{(5)}_{du} - 4M^{(1)}_{g0} + M^{(1)}_{s}$$