* Rank 0 tensor.

$[Q]$

$Q = Q_s^{(1)}$

* Rank 1 tensor. * Rank 2 tensor (s).

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

$Q_{xx} = -Q_{du}^{(1)} + Q_s^{(1)}$

$Q_{zz} = 2Q_{du}^{(1)} + Q_s^{(1)}$

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

$$\begin{bmatrix} 0 & Q_{xxy} & 0 \\ 0 & -Q_{xxy} & 0 \\ 0 & 0 & 0 \\ Q_{yzx} & 0 & 0 \\ 0 & -Q_{yzx} & 0 \\ Q_{xxy} & 0 & 0 \end{bmatrix}$$

$Q_{xxy} = Q_{f1}^{(1)}$

$Q_{yzx} = -3G_{du}^{(1)}$

* Rank 3 tensor (a).

$$\begin{bmatrix} Q_{yzx} & 0 & 0 \\ 0 & Q_{yzx} & 0 \\ 0 & 0 & Q_{xyz} \end{bmatrix}$$

$Q_{yzx} = -G_{du}^{(2)} + G_s^{(1)}$

$Q_{xyz} = 2G_{du}^{(2)} + G_s^{(1)}$

* Rank 4 tensor (sss).

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

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

$Q_{xxyy} = -2Q_{du}^{(1)} + Q_{g0}^{(1)} + Q_s^{(1)}$

$Q_{xxzz} = Q_{du}^{(1)} - 4Q_{g0}^{(1)} + Q_s^{(1)}$

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

$Q_{zzzz} = 4Q_{du}^{(1)} + 8Q_{du}^{(2)} + 8Q_{g0}^{(1)} + Q_s^{(1)} + 2Q_s^{(2)}$

$Q_{yzyz} = Q_{du}^{(2)} - 4Q_{g0}^{(1)} + Q_s^{(2)}$

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* Rank 4 tensor (ssa).

$$\begin{bmatrix} 0 & 0 & Q_{xxzz} & 0 & Q_{xxzx} & 0 \\ 0 & 0 & Q_{xxzz} & 0 & -Q_{xxzx} & 0 \\ -Q_{xxzz} & -Q_{xxzz} & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & Q_{xxzx} \\ -Q_{xxzx} & Q_{xxzx} & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -Q_{xxzx} & 0 & 0 \end{bmatrix}$$

$$Q_{xxzz} = 3Q_{du}^{(3)}$$
$$Q_{xxzx} = -2G_{f1}^{(1)}$$

* Rank 4 tensor (aas).

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

$$Q_{yzyz} = -2Q_{du}^{(4)} + Q_s^{(3)}$$
$$Q_{xyxy} = 4Q_{du}^{(4)} + Q_s^{(3)}$$

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

$$\begin{bmatrix} 0 & Q_{xxzx} & 0 \\ 0 & -Q_{xxzx} & 0 \\ 0 & 0 & 0 \\ Q_{yzyz} & 0 & 0 \\ 0 & -Q_{yzyz} & 0 \\ Q_{xxzx} & 0 & 0 \end{bmatrix}$$

$$Q_{xxzx} = G_{f1}^{(2)}$$
$$Q_{yzyz} = -3Q_{du}^{(5)}$$

* Rank 4 tensor (as).

$$\begin{bmatrix} 0 & 0 & 0 & Q_{yzyz} & 0 & Q_{yzxy} \\ Q_{yzxy} & -Q_{yzxy} & 0 & 0 & -Q_{yzyz} & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

$$Q_{yzyz} = -3Q_{du}^{(6)}$$
$$Q_{yzxy} = G_{f1}^{(3)}$$

* Rank 4 tensor (s).

$$\begin{bmatrix} Q_{xxxx} & Q_{xxyy} & Q_{xxzz} & 0 & Q_{xxzx} & 0 & 0 & Q_{xxxz} & 0 \\ Q_{xxyy} & Q_{xxxx} & Q_{xxzz} & 0 & -Q_{xxzx} & 0 & 0 & -Q_{xxxz} & 0 \\ Q_{zzxx} & Q_{zzxx} & Q_{zzzz} & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & Q_{yzyz} & 0 & Q_{yzxy} & Q_{yzzy} & 0 & Q_{yzxy} \\ -Q_{yzxy} & Q_{yzxy} & 0 & 0 & Q_{yzzy} & 0 & 0 & Q_{yzyz} & 0 \\ 0 & 0 & 0 & -Q_{xxxz} & 0 & \frac{Q_{xxxx}}{2} - \frac{Q_{xxyy}}{2} & -Q_{xxzx} & 0 & \frac{Q_{xxxx}}{2} - \frac{Q_{xxyy}}{2} \end{bmatrix}$$

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$$Q_{xxxx} = -2Q^{(1)}_{du} - 4Q^{(2)}_{du} + 3Q^{(1)}_{g0} + Q^{(1)}_s + 2Q^{(2)}_s$$
$$Q_{xxyy} = -2Q^{(1)}_{du} + Q^{(1)}_{g0} + Q^{(1)}_s$$
$$Q_{xxzz} = Q^{(1)}_{du} + 3Q^{(3)}_{du} - 4Q^{(1)}_{g0} + Q^{(1)}_s$$
$$Q_{xxzx} = -2G^{(1)}_{f1} + G^{(2)}_{f1} + Q^{(1)}_{ga}$$
$$Q_{xxxz} = -2G^{(1)}_{f1} - G^{(2)}_{f1} + Q^{(1)}_{ga}$$
$$Q_{zzxx} = Q^{(1)}_{du} - 3Q^{(3)}_{du} - 4Q^{(1)}_{g0} + Q^{(1)}_s$$
$$Q_{zzzz} = 4Q^{(1)}_{du} + 8Q^{(2)}_{du} + 8Q^{(1)}_{g0} + Q^{(1)}_s + 2Q^{(2)}_s$$
$$Q_{yzyz} = Q^{(2)}_{du} - 3Q^{(5)}_{du} - 4Q^{(1)}_{g0} + Q^{(2)}_s$$
$$Q_{yzxy} = -2G^{(1)}_{f1} - Q^{(1)}_{ga}$$
$$Q_{yzzy} = Q^{(2)}_{du} + 3Q^{(5)}_{du} - 4Q^{(1)}_{g0} + Q^{(2)}_s$$

* Rank 4 tensor (a).

$$
\begin{bmatrix}
0 & 0 & 0 & Q_{yzyz} & 0 & Q_{yzxy} & Q_{yzzy} & 0 & Q_{yzxy} \\
Q_{yzxy} & -Q_{yzxy} & 0 & 0 & -Q_{yzzy} & 0 & 0 & -Q_{yzyz} & 0 \\
0 & 0 & 0 & 0 & 0 & Q_{xyxy} & 0 & 0 & -Q_{xyxy}
\end{bmatrix}
$$

$$Q_{yzyz} = -2Q^{(4)}_{du} - 3Q^{(6)}_{du} + Q^{(3)}_s$$
$$Q_{yzxy} = G^{(3)}_{f1}$$
$$Q_{yzzy} = 2Q^{(4)}_{du} - 3Q^{(6)}_{du} - Q^{(3)}_s$$
$$Q_{xyxy} = 4Q^{(4)}_{du} + Q^{(3)}_s$$

* Rank 4 tensor (t).

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

$$Q_{xxxx} = -2Q^{(1)}_{du} - 4Q^{(2)}_{du} + 3Q^{(1)}_{g0} + 3Q^{(1)}_s$$
$$Q_{xxxz} = Q^{(1)}_{ga}$$
$$Q_{zzzz} = 4Q^{(1)}_{du} + 8Q^{(2)}_{du} + 8Q^{(1)}_{g0} + 3Q^{(1)}_s$$
$$Q_{yyzz} = Q^{(1)}_{du} + 3Q^{(3)}_{du} - 4Q^{(1)}_{g0} + Q^{(1)}_s$$
$$Q_{zzxx} = Q^{(1)}_{du} - 3Q^{(3)}_{du} - 4Q^{(1)}_{g0} + Q^{(1)}_s$$
$$Q_{xxyy} = -2Q^{(1)}_{du} + Q^{(1)}_{g0} + Q^{(1)}_s$$
$$Q_{yzzy} = Q^{(2)}_{du} + 3Q^{(5)}_{du} - 4Q^{(1)}_{g0} + Q^{(1)}_s$$