

The (possibly singular) a -matrices associated
with the Lagrangian, as defined below Eq. (18) of arXiv:1812.02675:

Matrix for spin-0 sector:

$$\begin{pmatrix} 0 & 0 \\ 0 & \alpha_{\textcolor{blue}{1}} k^2 \end{pmatrix}$$

Matrix for spin-1 sector:

$$(0)$$

Matrix for spin-2 sector:

$$\begin{pmatrix} \alpha_{\textcolor{blue}{1}} k^2 \\ -\frac{\textcolor{blue}{1}}{2} \end{pmatrix}$$

Gauge constraints on source currents:

$$\textcolor{blue}{0}^{\textcolor{blue}{\mu}} \mathcal{T}^{\perp} = 0$$

$$\textcolor{blue}{1}^{\textcolor{blue}{\mu}} \mathcal{T}^{\perp \textcolor{blue}{a}} = 0$$

The Drazin (Moore-Penrose) inverses of these a -matrices, which are functionally
analogous to the inverse b -matrices described below Eq. (21) of arXiv:1812.02675:

Matrix for spin-0 sector:

$$\begin{pmatrix} 0 & 0 \\ 0 & \frac{1}{\alpha_{\textcolor{blue}{1}} k^2} \end{pmatrix}$$

Matrix for spin-1 sector:

$$(0)$$

Matrix for spin-2 sector:

$$\begin{pmatrix} -\frac{2}{\alpha_{\textcolor{blue}{1}} k^2} \end{pmatrix}$$

Square masses:

$$\{\emptyset, \emptyset, \emptyset, \emptyset, \emptyset, \emptyset\}$$

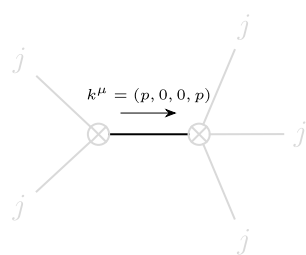
Massive pole residues:

$$\{\emptyset, \emptyset, \emptyset, \emptyset, \emptyset, \emptyset\}$$

Massless eigenvalues:

$$\left\{-\frac{4\,p^2}{\alpha_{\textcolor{blue}{1}}}, -\frac{2\,p^2}{\alpha_{\textcolor{blue}{1}}}\right\}$$

Overall particle spectrum:



Massless particle

Pole residue:	$-\frac{p^2}{\alpha_{\textcolor{blue}{1}}} > 0$
Polarisations:	2

Overall unitarity conditions:

$$\left(p < 0 \ \&\& \ \alpha_{\textcolor{blue}{1}} < 0\right) \parallel \left(p > 0 \ \&\& \ \alpha_{\textcolor{blue}{1}} < 0\right)$$