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

Matrix for spin-0 sector:

$$\left(\alpha_{\underset{3}{\cdot}} \right)$$

Matrix for spin-1 sector:

$$\left(\alpha_{\underset{3}{\cdot}} + 2\, \alpha_{\underset{1}{\cdot}}\, k^2 \right)$$

Gauge constraints on source currents:

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:

$$\left(\frac{1}{\alpha_{\underset{3}{\cdot}}} \right)$$

Matrix for spin-1 sector:

$$\left(\frac{1}{\alpha_{\underset{3}{\cdot}} + 2\, \alpha_{\underset{1}{\cdot}}\, k^2} \right)$$

Square masses:

$$\left\{ \{\}, \{\}, \{\}, \left\{ -\frac{\alpha_{\underset{3}{\cdot}}}{2\, \alpha_{\underset{1}{\cdot}}} \right\} \right\}$$

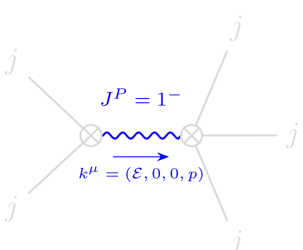
Massive pole residues:

$$\left\{ \{\}, \{\}, \{\}, \left\{ -\frac{1}{2\, \alpha_{\underset{1}{\cdot}}} \right\} \right\}$$

Massless eigenvalues:

$\{\}$

Overall particle spectrum:



Massive particle

Pole residue:	$-\frac{1}{2\, \alpha_{\underset{1}{\cdot}}} > 0$
Square mass:	$-\frac{\alpha_{\underset{3}{\cdot}}}{2\, \alpha_{\underset{1}{\cdot}}} > 0$
Spin:	1
Parity:	Odd

Overall unitarity conditions:

$$\alpha_{\underset{1}{\cdot}} < 0 \;\&\&\; \alpha_{\underset{3}{\cdot}} > 0$$