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

Matrix for spin-0 sector:

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

Matrix for spin-1 sector:

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

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:

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

Matrix for spin-1 sector:

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

Square masses:

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

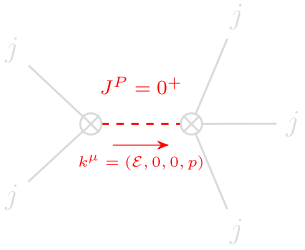
Massive pole residues:

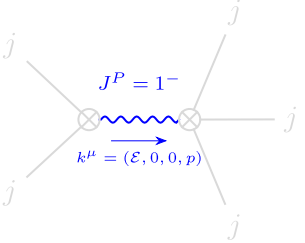
$$\left\{\left\{\frac{1}{\alpha_{1} + \alpha_{2}}\right\}, \{\}, \{\}, \left\{-\frac{1}{\alpha_{1}}\right\}\right\}$$

Massless eigenvalues:

{}

Overall particle spectrum:





Massive particle

Pole residue:	$\frac{S}{\alpha_{1}^{PM} \alpha_{2}^{P}} > 0$
Square mass:	$-\frac{\alpha_{3}^{P}}{\alpha_{1}^{PM} \alpha_{2}^{P}} > 0$
Spin:	0
Parity:	Even

Massive particle

Pole residue:	$-\frac{S}{\alpha_{1}^{P}} > 0$
Square mass:	$-\frac{\alpha_{3}^{P}}{\alpha_{1}^{P}} > 0$
Spin:	1
Parity:	Odd

Overall unitarity conditions:

False