

Lagrangian density

$$-\frac{1}{2}r_3\partial_i\omega^{\kappa\lambda}_{\kappa}\partial'\omega^{\alpha}_{\lambda\alpha}-r_5\partial_i\omega^{\kappa\lambda}_{\kappa}\partial'\omega^{\alpha}_{\lambda\alpha}+$$
$$\frac{2}{3}r_2\partial^\beta\omega^{\theta\alpha}_{\kappa}\partial_\theta\omega^{\kappa}_{\alpha\beta}-\frac{1}{3}r_2\partial_\theta\omega^{\kappa}_{\alpha\beta}\partial_\kappa\omega^{\alpha\beta\theta}-$$
$$\frac{2}{3}r_2\partial_\theta\omega^{\kappa}_{\alpha\beta}\partial_\kappa\omega^{\theta\alpha\beta}+\frac{1}{2}r_3\partial_\alpha\omega^{\alpha}_{\lambda\theta}\partial_\kappa\omega^{\theta\kappa\lambda}-r_5\partial_\alpha\omega^{\alpha}_{\lambda\theta}\partial_\kappa\omega^{\theta\kappa\lambda}-$$
$$\frac{1}{2}r_3\partial_\theta\omega^{\alpha}_{\lambda\alpha}\partial_\kappa\omega^{\theta\kappa\lambda}+r_5\partial_\theta\omega^{\alpha}_{\lambda\alpha}\partial_\kappa\omega^{\theta\kappa\lambda}-\frac{1}{2}r_3\partial_\alpha\omega^{\alpha}_{\lambda\theta}\partial_\kappa\omega^{\kappa\lambda\theta}-$$
$$r_5\partial_\alpha\omega^{\alpha}_{\lambda\theta}\partial_\kappa\omega^{\kappa\lambda\theta}+r_3\partial_\theta\omega^{\alpha}_{\lambda\alpha}\partial_\kappa\omega^{\kappa\lambda\theta}+2r_5\partial_\theta\omega^{\alpha}_{\lambda\alpha}\partial_\kappa\omega^{\kappa\lambda\theta}+$$
$$\frac{1}{3}r_2\partial_\kappa\omega^{\alpha\beta\theta}\partial^\kappa\omega_{\alpha\beta\theta}+\frac{2}{3}r_2\partial_\kappa\omega^{\theta\alpha\beta}\partial^\kappa\omega_{\alpha\beta\theta}-\frac{2}{3}r_2\partial^\beta\omega_{\alpha\lambda}'\partial_\lambda\omega_{\alpha\beta}'+$$
$$\frac{2}{3}r_2\partial^\beta\omega_{\alpha\lambda}'\partial_\lambda\omega_{\alpha\beta}'-4r_3\partial^\beta\omega_{\alpha\lambda}'\partial_\lambda\omega_{\alpha\beta}'-\frac{1}{2}r_3\partial_\alpha\omega^{\alpha}_{\lambda\theta}\partial^\lambda\omega^{\theta\kappa}_{\kappa}+$$
$$r_5\partial_\alpha\omega^{\alpha}_{\lambda\theta}\partial^\lambda\omega^{\theta\kappa}_{\kappa}+\frac{1}{2}r_3\partial_\theta\omega^{\alpha}_{\lambda\alpha}\partial^\lambda\omega^{\theta\kappa}_{\kappa}-r_5\partial_\theta\omega^{\alpha}_{\lambda\alpha}\partial^\lambda\omega^{\theta\kappa}_{\kappa}$$

Added source term: $\omega^{\alpha\beta\chi}\sigma_{\alpha\beta\chi}$

Source constraints	
SO(3) irreps	#
$\sigma_{0+}^{\#1}==0$	1
$\sigma_{1-}^{\#2\alpha}==0$	3
$\sigma_{1+}^{\#2\alpha\beta}==0$	3
$\sigma_{2-}^{\#1\alpha\beta\chi}==0$	5
Total #:	12

	$\omega_{2+}^{\#1\alpha\beta}$	$\omega_{2-}^{\#1\alpha\beta\chi}$
$\omega_{2+}^{\#1\alpha\beta}$	$-\frac{3k^2r_3}{2}$	0
$\omega_{2-}^{\#1\alpha\beta\chi}$	0	0

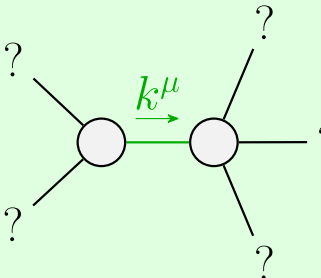
	$\sigma_{2+}^{\#1\alpha\beta}$	$\sigma_{2-}^{\#1\alpha\beta\chi}$
$\sigma_{2+}^{\#1\alpha\beta}$	$-\frac{2}{3k^2r_3}$	0
$\sigma_{2-}^{\#1\alpha\beta\chi}$	0	0

	$\omega_{1+}^{\#1\alpha\beta}$	$\omega_{1+}^{\#2\alpha\beta}$	$\omega_{1-}^{\#1\alpha}$	$\omega_{1-}^{\#2\alpha}$
$\omega_{1+}^{\#1\alpha\beta}$	$k^2(2r_3+r_5)$	0	0	0
$\omega_{1+}^{\#2\alpha\beta}$	0	0	0	0
$\omega_{1-}^{\#1\alpha}$	0	0	$\frac{1}{2}k^2(r_3+2r_5)$	0
$\omega_{1-}^{\#2\alpha}$	0	0	0	0

	$\sigma_{1-}^{\#2\alpha}$	$\sigma_{1-}^{\#1\alpha}$	$\sigma_{1+}^{\#2\alpha\beta}$	$\sigma_{1+}^{\#1\alpha\beta}$
$\sigma_{1-}^{\#2\alpha}$	0	0	0	$\frac{1}{k^2(2r_3+r_5)}$
$\sigma_{1-}^{\#1\alpha}$	0	0	0	0
$\sigma_{1+}^{\#2\alpha\beta}$	0	0	0	0
$\sigma_{1+}^{\#1\alpha\beta}$	0	0	0	0

	$\sigma_{0+}^{\#1}$	$\sigma_{0+}^{\#1}$
$\sigma_{0+}^{\#1}$	0	0
$\sigma_{0-}^{\#1}$	$\frac{1}{k^2r_2}$	0

	$\omega_{0+}^{\#1}$	$\omega_{0+}^{\#1}$
$\omega_{0+}^{\#1}$	0	0
$\omega_{0-}^{\#1}$	k^2r_2	0



Quadratic pole	
Pole residue:	$-\frac{1}{r_3(2r_3+r_5)(r_3+2r_5)} > 0$
Polarisations:	2

Unitarity conditions

$r_3 < 0 \&\& (r_5 < -\frac{r_3}{2} || r_5 > -2r_3) || r_3 > 0 \&\& -2r_3 < r_5 < -\frac{r_3}{2}$

(No massive particles)