Lagrangian density

$$\frac{2}{3} t_3\, \omega_{\iota}{}^{\alpha\prime}\, \omega_{\kappa\alpha}{}^{\kappa} - \frac{1}{2} r_3\, \partial_{\iota}\omega^{\kappa\lambda}{}_{\kappa}\, \partial^{\prime}\omega_{\lambda}{}_{\alpha}{}^{\alpha} - r_5\, \partial_{\iota}\omega^{\kappa\lambda}{}_{\kappa}\, \partial^{\prime}\omega_{\lambda}{}_{\alpha}{}^{\alpha} +$$
$$\frac{2}{3} r_2\, \partial^{\beta}\omega^{\theta\alpha}{}_{\kappa}\, \partial_{\theta}\omega_{\alpha\beta}{}^{\kappa} - \frac{1}{3} r_2\, \partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}\, \partial_{\kappa}\omega^{\alpha\beta\theta} - \frac{2}{3} r_2\, \partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}\, \partial_{\kappa}\omega^{\theta\alpha\beta} +$$
$$\frac{1}{2} r_3\, \partial_{\alpha}\omega_{\lambda}{}_{\theta}{}^{\alpha}\, \partial_{\kappa}\omega^{\theta\kappa\lambda} - r_5\, \partial_{\alpha}\omega_{\lambda}{}_{\theta}{}^{\alpha}\, \partial_{\kappa}\omega^{\theta\kappa\lambda} - \frac{1}{2} r_3\, \partial_{\theta}\omega_{\lambda}{}_{\alpha}{}^{\alpha}\, \partial_{\kappa}\omega^{\kappa\lambda\theta} +$$
$$r_5\, \partial_{\theta}\omega_{\lambda}{}_{\alpha}{}^{\alpha}\, \partial_{\kappa}\omega^{\theta\kappa\lambda} - \frac{1}{2} r_3\, \partial_{\alpha}\omega_{\lambda}{}_{\theta}{}^{\alpha}\, \partial_{\kappa}\omega^{\kappa\lambda\theta} - r_5\, \partial_{\alpha}\omega_{\lambda}{}_{\theta}{}^{\alpha}\, \partial_{\kappa}\omega^{\kappa\lambda\theta} +$$
$$r_3\, \partial_{\theta}\omega_{\lambda}{}_{\alpha}{}^{\alpha}\, \partial_{\kappa}\omega^{\kappa\lambda\theta} + 2\, r_5\, \partial_{\theta}\omega_{\lambda}{}_{\alpha}{}^{\alpha}\, \partial_{\kappa}\omega^{\kappa\lambda\theta} - \frac{2}{3} t_3\, \omega_{\kappa\alpha}{}^{\alpha}\, \partial^{\kappa} f^{\prime}{}_{\iota}{}^{\iota} -$$
$$\frac{2}{3} t_3\, \omega_{\kappa\lambda}{}^{\lambda}\, \partial^{\kappa} f^{\prime}{}_{\iota}{}^{\iota} - \frac{4}{3} t_3\, \partial^{\alpha} f_{\kappa\alpha}\, \partial^{\kappa} f^{\prime}{}_{\iota}{}^{\iota} + \frac{2}{3} t_3\, \partial_{\kappa} f^{\lambda}{}_{\lambda}\, \partial^{\kappa} f^{\prime}{}_{\iota}{}^{\iota} +$$
$$\frac{2}{3} t_3\, \omega_{\iota\alpha}{}^{\alpha}\, \partial^{\kappa} f^{\prime}{}_{\kappa}{}^{\iota} + \frac{2}{3} t_3\, \omega_{\iota\lambda}{}^{\lambda}\, \partial^{\kappa} f^{\prime}{}_{\kappa}{}^{\iota} + \frac{2}{3} t_3\, \partial^{\alpha} f^{\lambda}{}_{\alpha}\, \partial^{\kappa} f_{\lambda\kappa} +$$
$$\frac{1}{3} r_2\, \partial_{\kappa}\omega^{\alpha\beta\theta}\, \partial^{\kappa}\omega_{\alpha\beta\theta} + \frac{2}{3} r_2\, \partial_{\kappa}\omega^{\theta\alpha\beta}\, \partial^{\kappa}\omega_{\alpha\beta\theta} - \frac{2}{3} r_2\, \partial^{\beta}\omega_{\iota}{}^{\alpha\lambda}\, \partial_{\lambda}\omega_{\alpha\beta}{}^{\prime} +$$
$$\frac{2}{3} r_2\, \partial^{\beta}\omega_{\iota}{}^{\lambda\alpha}\, \partial_{\lambda}\omega_{\alpha\beta}{}^{\prime} - 4\, r_3\, \partial^{\beta}\omega_{\iota}{}^{\lambda\alpha}\, \partial_{\lambda}\omega_{\alpha\beta}{}^{\prime} - \frac{1}{2} r_3\, \partial_{\alpha}\omega_{\lambda}{}_{\theta}{}^{\alpha}\, \partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa} +$$
$$r_5\, \partial_{\alpha}\omega_{\lambda}{}_{\theta}{}^{\alpha}\, \partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa} + \frac{1}{2} r_3\, \partial_{\theta}\omega_{\lambda}{}_{\alpha}{}^{\alpha}\, \partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa} - r_5\, \partial_{\theta}\omega_{\lambda}{}_{\alpha}{}^{\alpha}\, \partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}$$

Added source term: $f^{\alpha\beta}\, \tau_{\alpha\beta} + \omega^{\alpha\beta\chi}\, \sigma_{\alpha\beta\chi}$

	$\omega^{\#1}_{1^+}{}_{\alpha\beta}$	$\omega^{\#2}_{1^+}{}_{\alpha\beta}$	$f^{\#1}_{1^+}{}_{\alpha\beta}$	$\omega^{\#1}_{1^-}{}_{\alpha}$	$\omega^{\#2}_{1^-}{}_{\alpha}$	$f^{\#1}_{1^-}{}_{\alpha}$	$f^{\#2}_{1^-}{}_{\alpha}$
$\omega^{\#1}_{1^+}{}^{\dagger\alpha\beta}$	$k^2\,(2\,r_3+r_5)$	0	0	0	0	0	0
$\omega^{\#2}_{1^+}{}^{\dagger\alpha\beta}$	0	0	0	0	0	0	0
$f^{\#1}_{1^+}{}^{\dagger\alpha\beta}$	0	0	0	0	0	0	0
$\omega^{\#1}_{1^-}{}^{\dagger\alpha}$	0	0	0	$k^2\,(\frac{r_3}{2}+r_5)+\frac{2\,t_3}{3}$	$-\frac{\sqrt{2}\,t_3}{3}$	$-\frac{2}{3}\,i\,k\,t_3$	0
$\omega^{\#2}_{1^-}{}^{\dagger\alpha}$	0	0	0	$-\frac{\sqrt{2}\,t_3}{3}$	$\frac{t_3}{3}$	$\frac{1}{3}\,i\,\sqrt{2}\,k\,t_3$	0
$f^{\#1}_{1^-}{}^{\dagger\alpha}$	0	0	0	0	0	0	0
$f^{\#2}_{1^-}{}^{\dagger\alpha}$	0	0	0	$\frac{2\,i\,k\,t_3}{3}$	$-\frac{1}{3}\,i\,\sqrt{2}\,k\,t_3$	0	$\frac{2\,k^2\,t_3}{3}$

	$\sigma^{\#1}_{2^+}{}_{\alpha\beta}$	$\tau^{\#1}_{2^+}{}_{\alpha\beta}$	$\sigma^{\#1}_{2^-}{}_{\alpha\beta\chi}$
$\sigma^{\#1}_{2^+}{}^{\dagger\alpha\beta}$	$-\frac{2}{3\,k^2\,r_3}$	0	0
$\tau^{\#1}_{2^+}{}^{\dagger\alpha\beta}$	0	0	0
$\sigma^{\#1}_{2^-}{}^{\dagger\alpha\beta\chi}$	0	0	0

Source constraints

SO(3) irreps	#
$\tau^{\#2}_{0^+} == 0$	1
$\tau^{\#1}_{0^+} - 2\,i\,k\,\sigma^{\#1}_{0^+} == 0$	1
$\tau^{\#2\alpha}_{1^-} + 2\,i\,k\,\sigma^{\#2\alpha}_{1^-} == 0$	3
$\tau^{\#1\alpha}_{1^-} == 0$	3
$\tau^{\#1\alpha\beta}_{1^+} == 0$	3
$\sigma^{\#2\alpha\beta}_{1^+} == 0$	3
$\sigma^{\#1\alpha\beta\chi}_{2^-} == 0$	5
$\tau^{\#1\alpha\beta}_{2^+} == 0$	5
Total #:	24

	$\omega^{\#1}_{0^+}$	$f^{\#1}_{0^+}$	$f^{\#2}_{0^+}$	$\omega^{\#1}_{0^-}$
$\omega^{\#1}_{0^+}{}^{\dagger}$	t_3	$-i\,\sqrt{2}\,k\,t_3$	0	0
$f^{\#1}_{0^+}{}^{\dagger}$	$i\,\sqrt{2}\,k\,t_3$	$2\,k^2\,t_3$	0	0
$f^{\#2}_{0^+}{}^{\dagger}$	0	0	0	0
$\omega^{\#1}_{0^-}{}^{\dagger}$	0	0	0	$k^2\,r_2$

	$\omega^{\#1}_{2^+}{}_{\alpha\beta}$	$f^{\#1}_{2^+}{}_{\alpha\beta}$	$\omega^{\#1}_{2^-}{}_{\alpha\beta\chi}$
$\omega^{\#1}_{2^+}{}^{\dagger\alpha\beta}$	$-\frac{3\,k^2\,r_3}{2}$	0	0
$f^{\#1}_{2^+}{}^{\dagger\alpha\beta}$	0	0	0
$\omega^{\#1}_{2^-}{}^{\dagger\alpha\beta\chi}$	0	0	0

	$\sigma^{\#1}_{0^+}$	$\tau^{\#1}_{0^+}$	$\tau^{\#2}_{0^+}$	$\sigma^{\#1}_{0^-}$
$\sigma^{\#1}_{0^+}{}^{\dagger}$	$\frac{1}{(1+2\,k^2)^2\,t_3}$	$-\frac{i\,\sqrt{2}\,k}{(1+2\,k^2)^2\,t_3}$	0	0
$\tau^{\#1}_{0^+}{}^{\dagger}$	$\frac{i\,\sqrt{2}\,k}{(1+2\,k^2)^2\,t_3}$	$\frac{2\,k^2}{(1+2\,k^2)^2\,t_3}$	0	0
$\tau^{\#2}_{0^+}{}^{\dagger}$	0	0	0	0
$\sigma^{\#1}_{0^-}{}^{\dagger}$	0	0	0	$\frac{1}{k^2\,r_2}$

	$\sigma^{\#1}_{1^+}{}_{\alpha\beta}$	$\sigma^{\#2}_{1^+}{}_{\alpha\beta}$	$\tau^{\#1}_{1^+}{}_{\alpha\beta}$	$\sigma^{\#1}_{1^-}{}_{\alpha}$	$\sigma^{\#2}_{1^-}{}_{\alpha}$	$\tau^{\#1}_{1^-}{}_{\alpha}$	$\tau^{\#2}_{1^-}{}_{\alpha}$
$\sigma^{\#1}_{1^+}{}^{\dagger\alpha\beta}$	$\frac{1}{k^2\,(2\,r_3+r_5)}$	0	0	0	0	0	0
$\sigma^{\#2}_{1^+}{}^{\dagger\alpha\beta}$	0	0	0	0	0	0	0
$\tau^{\#1}_{1^+}{}^{\dagger\alpha\beta}$	0	0	0	0	0	0	0
$\sigma^{\#1}_{1^-}{}^{\dagger\alpha}$	0	0	0	$\frac{2}{k^2\,(r_3+2\,r_5)}$	$\frac{2\,\sqrt{2}}{k^2\,(1+2\,k^2)\,(r_3+2\,r_5)}$	$\frac{4\,i}{k\,(1+2\,k^2)\,(r_3+2\,r_5)}$	0
$\sigma^{\#2}_{1^-}{}^{\dagger\alpha}$	0	0	0	$\frac{2\,\sqrt{2}}{k^2\,(1+2\,k^2)\,(r_3+2\,r_5)}$	$\frac{3\,k^2\,(r_3+2\,r_5)+4\,t_3}{(k+2\,k^3)^2\,(r_3+2\,r_5)\,t_3}$	$\frac{i\,\sqrt{2}\,(3\,k^2\,(r_3+2\,r_5)+4\,t_3)}{k\,(1+2\,k^2)^2\,(r_3+2\,r_5)\,t_3}$	0
$\tau^{\#1}_{1^-}{}^{\dagger\alpha}$	0	0	0	0	$\frac{i\,\sqrt{2}\,(3\,k^2\,(r_3+2\,r_5)+4\,t_3)}{k\,(1+2\,k^2)^2\,(r_3+2\,r_5)\,t_3}$	$\frac{4\,i}{k\,(1+2\,k^2)\,(r_3+2\,r_5)}$	0
$\tau^{\#2}_{1^-}{}^{\dagger\alpha}$	0	0	0	0	0	0	0

Quadratic pole

Pole residue:	$-\frac{1}{r_3\,(2\,r_3+r_5)\,(r_3+2\,r_5)\,p^2} > 0$
Polarisations:	2

Unitarity conditions

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

(No massive particles)