Lagrangian density

$$-t_1\,\omega_{\iota}{}^{\alpha\iota}\,\omega_{\kappa\alpha}{}^{\kappa}-\tfrac{1}{3}t_1\,\omega_{\iota}{}^{\kappa\lambda}\,\omega_{\kappa\lambda}{}^{\iota}+\tfrac{2}{3}t_2\,\omega_{\iota}{}^{\kappa\lambda}\,\omega_{\kappa\lambda}{}^{\iota}+\tfrac{1}{3}t_1\,\omega_{\kappa\lambda}{}^{\iota}\,\omega^{\kappa\lambda}{}_{\iota}+$$
$$\tfrac{1}{3}t_2\,\omega_{\kappa\lambda}{}^{\iota}\,\omega^{\kappa\lambda}{}_{\iota}+2r_1\,\partial_{\iota}\omega^{\kappa\lambda}{}_{\kappa}\partial^{\iota}\omega_{\lambda}{}^{\alpha}{}_{\alpha}-\tfrac{2}{3}r_1\,\partial^{\beta}\omega^{\theta\alpha}{}_{\kappa}\partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}+$$
$$\tfrac{2}{3}r_2\,\partial^{\beta}\omega^{\theta\alpha}{}_{\kappa}\partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}-\tfrac{2}{3}r_1\,\partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}\partial_{\kappa}\omega^{\alpha\beta\theta}-\tfrac{1}{3}r_2\,\partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}\partial_{\kappa}\omega^{\alpha\beta\theta}+$$
$$\tfrac{2}{3}r_1\,\partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}\partial_{\kappa}\omega^{\theta\alpha\beta}-\tfrac{2}{3}r_2\,\partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}\partial_{\kappa}\omega^{\theta\alpha\beta}+2r_1\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial_{\kappa}\omega^{\theta\kappa\lambda}-$$
$$2r_1\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\partial_{\kappa}\omega^{\theta\kappa\lambda}+2r_1\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial_{\kappa}\omega^{\kappa\lambda\theta}-4r_1\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\partial_{\kappa}\omega^{\kappa\lambda\theta}-$$
$$\tfrac{1}{3}t_1\,\partial^{\alpha}f_{\theta\kappa}\partial^{\kappa}f_{\alpha}{}^{\theta}+\tfrac{1}{6}t_2\,\partial^{\alpha}f_{\theta\kappa}\partial^{\kappa}f_{\alpha}{}^{\theta}-\tfrac{2}{3}t_1\,\partial^{\alpha}f_{\kappa\theta}\partial^{\kappa}f_{\alpha}{}^{\theta}-$$
$$\tfrac{1}{6}t_2\,\partial^{\alpha}f_{\kappa\theta}\partial^{\kappa}f_{\alpha}{}^{\theta}-\tfrac{1}{3}t_1\,\partial^{\alpha}f^{\lambda}{}_{\kappa}\partial^{\kappa}f_{\alpha\lambda}+\tfrac{1}{6}t_2\,\partial^{\alpha}f^{\lambda}{}_{\kappa}\partial^{\kappa}f_{\alpha\lambda}+$$
$$t_1\,\omega_{\kappa\alpha}{}^{\alpha}\,\partial^{\kappa}f^{\iota}{}_{\iota}+t_1\,\omega_{\kappa\lambda}{}^{\lambda}\,\partial^{\kappa}f^{\iota}{}_{\iota}+2t_1\,\partial^{\alpha}f_{\kappa\alpha}\partial^{\kappa}f^{\iota}{}_{\iota}-t_1\,\partial_{\kappa}f^{\lambda}{}_{\lambda}\partial^{\kappa}f^{\iota}{}_{\iota}+$$
$$\tfrac{1}{3}t_1\,\omega_{\iota\theta\kappa}\,\partial^{\kappa}f^{\iota\theta}+\tfrac{1}{3}t_2\,\omega_{\iota\theta\kappa}\,\partial^{\kappa}f^{\iota\theta}+\tfrac{4}{3}t_1\,\omega_{\iota\kappa\theta}\,\partial^{\kappa}f^{\iota\theta}-\tfrac{2}{3}t_2\,\omega_{\iota\kappa\theta}\,\partial^{\kappa}f^{\iota\theta}-$$
$$\tfrac{1}{3}t_1\,\omega_{\theta\iota\kappa}\,\partial^{\kappa}f^{\iota\theta}-\tfrac{1}{3}t_2\,\omega_{\theta\iota\kappa}\,\partial^{\kappa}f^{\iota\theta}+\tfrac{2}{3}t_1\,\omega_{\theta\kappa\iota}\,\partial^{\kappa}f^{\iota\theta}+\tfrac{2}{3}t_2\,\omega_{\theta\kappa\iota}\,\partial^{\kappa}f^{\iota\theta}-$$
$$t_1\,\omega_{\iota\alpha}{}^{\alpha}\,\partial^{\kappa}f^{\iota}{}_{\kappa}-t_1\,\omega_{\iota\lambda}{}^{\lambda}\,\partial^{\kappa}f^{\iota}{}_{\kappa}+\tfrac{1}{3}t_1\,\partial^{\alpha}f^{\lambda}{}_{\kappa}\partial^{\kappa}f_{\lambda\alpha}-\tfrac{1}{6}t_2\,\partial^{\alpha}f^{\lambda}{}_{\kappa}\partial^{\kappa}f_{\lambda\alpha}+$$
$$\tfrac{1}{3}t_1\,\partial_{\kappa}f_{\theta}{}^{\lambda}\partial^{\kappa}f_{\lambda}{}^{\theta}-\tfrac{1}{6}t_2\,\partial_{\kappa}f_{\theta}{}^{\lambda}\partial^{\kappa}f_{\lambda}{}^{\theta}+\tfrac{2}{3}t_1\,\partial_{\kappa}f^{\lambda}{}_{\theta}\partial^{\kappa}f_{\lambda}{}^{\theta}+$$
$$\tfrac{1}{6}t_2\,\partial_{\kappa}f^{\lambda}{}_{\theta}\partial^{\kappa}f_{\lambda}{}^{\theta}-t_1\,\partial^{\alpha}f^{\lambda}{}_{\alpha}\partial^{\kappa}f_{\lambda\kappa}+\tfrac{2}{3}r_1\,\partial_{\kappa}\omega^{\alpha\beta\theta}\partial^{\kappa}\omega_{\alpha\beta\theta}+$$
$$\tfrac{1}{3}r_2\,\partial_{\kappa}\omega^{\alpha\beta\theta}\partial^{\kappa}\omega_{\alpha\beta\theta}-\tfrac{2}{3}r_1\,\partial_{\kappa}\omega^{\theta\alpha\beta}\partial^{\kappa}\omega_{\alpha\beta\theta}+\tfrac{2}{3}r_2\,\partial_{\kappa}\omega^{\theta\alpha\beta}\partial^{\kappa}\omega_{\alpha\beta\theta}+$$
$$\tfrac{2}{3}r_1\,\partial^{\beta}\omega_{\iota}{}^{\alpha\lambda}\partial_{\lambda}\omega_{\alpha\beta}{}^{\iota}-\tfrac{2}{3}r_2\,\partial^{\beta}\omega_{\iota}{}^{\alpha\lambda}\partial_{\lambda}\omega_{\alpha\beta}{}^{\iota}-\tfrac{8}{3}r_1\,\partial^{\beta}\omega_{\iota}{}^{\lambda\alpha}\partial_{\lambda}\omega_{\alpha\beta}{}^{\iota}+$$
$$\tfrac{2}{3}r_2\,\partial^{\beta}\omega_{\iota}{}^{\lambda\alpha}\partial_{\lambda}\omega_{\alpha\beta}{}^{\iota}-2r_1\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}+2r_1\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}$$

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

	$\sigma^{\#1}_{1^+\,\alpha\beta}$	$\sigma^{\#2}_{1^+\,\alpha\beta}$	$\tau^{\#1}_{1^+\,\alpha\beta}$	$\sigma^{\#1}_{1^-\,\alpha}$	$\sigma^{\#2}_{1^-\,\alpha}$	$\tau^{\#1}_{1^-\,\alpha}$	$\tau^{\#2}_{1^-\,\alpha}$
$\sigma^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\frac{2(t_1+t_2)}{3t_1t_2}$	$\frac{\sqrt{2}(t_1-2t_2)}{3(1+k^2)t_1t_2}$	$\frac{i\sqrt{2}k(t_1-2t_2)}{3(1+k^2)t_1t_2}$	0	0	0	0
$\sigma^{\#2}_{1^+}\dagger^{\alpha\beta}$	$\frac{\sqrt{2}(t_1-2t_2)}{3(1+k^2)t_1t_2}$	$\frac{t_1+4t_2}{3(1+k^2)^2t_1t_2}$	$\frac{ik(t_1+4t_2)}{3(1+k^2)^2t_1t_2}$	0	0	0	0
$\tau^{\#1}_{1^+}\dagger^{\alpha\beta}$	$-\frac{i\sqrt{2}k(t_1-2t_2)}{3(1+k^2)t_1t_2}$	$-\frac{ik(t_1+4t_2)}{3(1+k^2)^2t_1t_2}$	$\frac{k^2(t_1+4t_2)}{3(1+k^2)^2t_1t_2}$	0	0	0	0
$\sigma^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	$\frac{\sqrt{2}}{t_1+2k^2t_1}$	0	$\frac{2ik}{t_1+2k^2t_1}$
$\sigma^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{\sqrt{2}}{t_1+2k^2t_1}$	$\frac{2k^2r_1+t_1}{(t_1+2k^2t_1)^2}$	0	$\frac{i\sqrt{2}k(2k^2r_1+t_1)}{(t_1+2k^2t_1)^2}$
$\tau^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	0	0	0
$\tau^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$-\frac{2ik}{t_1+2k^2t_1}$	$-\frac{i\sqrt{2}k(2k^2r_1+t_1)}{(t_1+2k^2t_1)^2}$	0	$\frac{2k^2(2k^2r_1+t_1)}{(t_1+2k^2t_1)^2}$

	$\omega^{\#1}_{1^+\,\alpha\beta}$	$\omega^{\#2}_{1^+\,\alpha\beta}$	$f^{\#1}_{1^+\,\alpha\beta}$	$\omega^{\#1}_{1^-\,\alpha}$	$\omega^{\#2}_{1^-\,\alpha}$	$f^{\#1}_{1^-\,\alpha}$	$f^{\#2}_{1^-\,\alpha}$
$\omega^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\frac{1}{6}(t_1+4t_2)$	$-\frac{t_1-2t_2}{3\sqrt{2}}$	$-\frac{ik(t_1-2t_2)}{3\sqrt{2}}$	0	0	0	0
$\omega^{\#2}_{1^+}\dagger^{\alpha\beta}$	$-\frac{t_1-2t_2}{3\sqrt{2}}$	$\frac{t_1+t_2}{3}$	$\frac{1}{3}ik(t_1+t_2)$	0	0	0	0
$f^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\frac{ik(t_1-2t_2)}{3\sqrt{2}}$	$-\frac{1}{3}ik(t_1+t_2)$	$\frac{1}{3}k^2(t_1+t_2)$	0	0	0	0
$\omega^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	$-k^2r_1-\frac{t_1}{2}$	$\frac{t_1}{\sqrt{2}}$	0	ikt_1
$\omega^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{t_1}{\sqrt{2}}$	0	0	0
$f^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	0	0	0
$f^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$-ikt_1$	0	0	0

	$\omega^{\#1}_{0^+}$	$f^{\#1}_{0^+}$	$f^{\#2}_{0^+}$	$\omega^{\#1}_{0^-}$
$\omega^{\#1}_{0^+}\dagger$	$-t_1$	$i\sqrt{2}\,kt_1$	0	0
$f^{\#1}_{0^+}\dagger$	$-i\sqrt{2}\,kt_1$	$-2k^2t_1$	0	0
$f^{\#2}_{0^+}\dagger$	0	0	0	0
$\omega^{\#1}_{0^-}\dagger$	0	0	0	$k^2r_2+t_2$

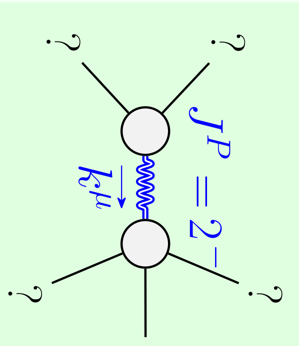
	$\sigma^{\#1}_{2^+\,\alpha\beta}$	$\tau^{\#1}_{2^+\,\alpha\beta}$	$\sigma^{\#1}_{2^-\,\alpha\beta\chi}$
$\sigma^{\#1}_{2^+}\dagger^{\alpha\beta}$	$\frac{2}{(1+2k^2)^2t_1}$	$-\frac{2i\sqrt{2}k}{(1+2k^2)^2t_1}$	0
$\tau^{\#1}_{2^+}\dagger^{\alpha\beta}$	$\frac{2i\sqrt{2}k}{(1+2k^2)^2t_1}$	$\frac{4k^2}{(1+2k^2)^2t_1}$	0
$\sigma^{\#1}_{2^-}\dagger^{\alpha\beta\chi}$	0	0	$\frac{2}{2k^2r_1+t_1}$

	$\omega^{\#1}_{2^+\,\alpha\beta}$	$f^{\#1}_{2^+\,\alpha\beta}$	$\omega^{\#1}_{2^-\,\alpha\beta\chi}$
$\omega^{\#1}_{2^+}\dagger^{\alpha\beta}$	$\frac{t_1}{2}$	$-\frac{ikt_1}{\sqrt{2}}$	0
$f^{\#1}_{2^+}\dagger^{\alpha\beta}$	$\frac{ikt_1}{\sqrt{2}}$	k^2t_1	0
$\omega^{\#1}_{2^-}\dagger^{\alpha\beta\chi}$	0	0	$k^2r_1+\frac{t_1}{2}$

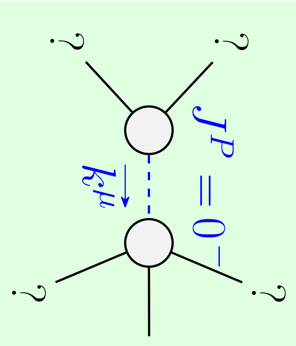
	$\sigma^{\#1}_{0^+}$	$\tau^{\#1}_{0^+}$	$\tau^{\#2}_{0^+}$	$\sigma^{\#1}_{0^-}$
$\sigma^{\#1}_{0^+}\dagger$	$-\frac{1}{(1+2k^2)^2t_1}$	$\frac{i\sqrt{2}k}{(1+2k^2)^2t_1}$	0	0
$\tau^{\#1}_{0^+}\dagger$	$-\frac{i\sqrt{2}k}{(1+2k^2)^2t_1}$	$-\frac{2k^2}{(1+2k^2)^2t_1}$	0	0
$\tau^{\#2}_{0^+}\dagger$	0	0	0	0
$\sigma^{\#1}_{0^-}\dagger$	0	0	0	$\frac{1}{k^2r_2+t_2}$

Source constraints

SO(3) irreps	#
$\tau^{\#2}_{0^+}==0$	1
$\tau^{\#1}_{0^+}-2ik\,\sigma^{\#1}_{0^+}==0$	1
$\tau^{\#2}_{1^-}{}^{\alpha}+2ik\,\sigma^{\#2}_{1^-}{}^{\alpha}==0$	3
$\tau^{\#1}_{1^-}{}^{\alpha}==0$	3
$\tau^{\#1}_{1^+}{}^{\alpha\beta}+ik\,\sigma^{\#2}_{1^+}{}^{\alpha\beta}==0$	3
$\tau^{\#1}_{2^+}{}^{\alpha\beta}-2ik\,\sigma^{\#1}_{2^+}{}^{\alpha\beta}==0$	5
Total #:	16



Massive particle	
Pole residue:	$-\frac{1}{r_1}>0$
Polarisations:	5
Square mass:	$-\frac{t_1}{2r_1}>0$
Spin:	2
Parity:	Odd



Massive particle	
Pole residue:	$-\frac{1}{r_2}>0$
Polarisations:	1
Square mass:	$-\frac{t_2}{r_2}>0$
Spin:	0
Parity:	Odd

Unitarity conditions

$r_1<0\ \&\&\ r_2<0\ \&\&\ t_1>0\ \&\&\ t_2>0$

(No massless particles)