Lagrangian density

$$\frac{2}{3} t_2\ \omega_{\iota}{}^{\kappa\lambda}\ \omega_{\kappa\lambda}{}'+\frac{1}{3} t_2\ \omega_{\kappa\lambda}{}'\ \omega^{\kappa\lambda}{}_{\iota}+f^{\alpha\beta}\ \tau_{\alpha\beta}+\omega^{\alpha\beta\chi}\ \sigma_{\alpha\beta\chi}-\frac{1}{2} r_3\,\partial_{\iota}\omega^{\kappa\lambda}{}_{\kappa}\,\partial^{\iota}\omega_{\lambda}{}^{\alpha}{}_{\alpha}-$$
$$r_5\,\partial_{\iota}\omega^{\kappa\lambda}{}_{\kappa}\,\partial^{\iota}\omega_{\lambda}{}^{\alpha}{}_{\alpha}+\frac{2}{3} r_2\,\partial^{\beta}\omega^{\theta\alpha}{}_{\kappa}\,\partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}-\frac{1}{3} r_2\,\partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}\,\partial_{\kappa}\omega^{\alpha\beta\theta}-$$
$$\frac{2}{3} r_2\,\partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}\,\partial_{\kappa}\omega^{\theta\alpha\beta}+\frac{1}{2} r_3\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\,\partial_{\kappa}\omega^{\theta\kappa\lambda}-r_5\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\,\partial_{\kappa}\omega^{\theta\kappa\lambda}-$$
$$\frac{1}{2} r_3\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\,\partial_{\kappa}\omega^{\theta\kappa\lambda}+r_5\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\,\partial_{\kappa}\omega^{\theta\kappa\lambda}-\frac{1}{2} r_3\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}-$$
$$r_5\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}+r_3\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}+2\,r_5\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}+\frac{1}{6} t_2\,\partial^{\alpha}f_{\theta\kappa}\,\partial^{\kappa}f_{\alpha}{}^{\theta}-$$
$$\frac{1}{6} t_2\,\partial^{\alpha}f_{\kappa\theta}\,\partial^{\kappa}f_{\alpha}{}^{\theta}+\frac{1}{6} t_2\,\partial^{\alpha}f^{\lambda}{}_{\kappa}\,\partial^{\kappa}f_{\alpha\lambda}+\frac{1}{3} t_2\ \omega_{\iota\theta\kappa}\,\partial^{\kappa}f^{\iota\theta}-\frac{2}{3} t_2\ \omega_{\iota\kappa\theta}\,\partial^{\kappa}f^{\iota\theta}-$$
$$\frac{1}{3} t_2\ \omega_{\theta\iota\kappa}\,\partial^{\kappa}f^{\iota\theta}+\frac{2}{3} t_2\ \omega_{\theta\kappa\iota}\,\partial^{\kappa}f^{\iota\theta}-\frac{1}{6} t_2\,\partial^{\alpha}f^{\lambda}{}_{\kappa}\,\partial^{\kappa}f_{\lambda\alpha}-\frac{1}{6} t_2\,\partial_{\kappa}f_{\theta}{}^{\lambda}\,\partial^{\kappa}f_{\lambda}{}^{\theta}+$$
$$\frac{1}{6} t_2\,\partial_{\kappa}f^{\lambda}{}_{\theta}\,\partial^{\kappa}f_{\lambda}{}^{\theta}+\frac{1}{3} r_2\,\partial_{\kappa}\omega^{\alpha\beta\theta}\,\partial^{\kappa}\omega_{\alpha\beta\theta}+\frac{2}{3} r_2\,\partial_{\kappa}\omega^{\theta\alpha\beta}\,\partial^{\kappa}\omega_{\alpha\beta\theta}-$$
$$\frac{2}{3} r_2\,\partial^{\beta}\omega_{\iota}{}^{\alpha\lambda}\,\partial_{\lambda}\omega_{\alpha\beta}{}'+\frac{2}{3} r_2\,\partial^{\beta}\omega_{\iota}{}^{\lambda\alpha}\,\partial_{\lambda}\omega_{\alpha\beta}{}'-4\,r_3\,\partial^{\beta}\omega_{\iota}{}^{\lambda\alpha}\,\partial_{\lambda}\omega_{\alpha\beta}{}'-$$
$$\frac{1}{2} r_3\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}+r_5\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}+\frac{1}{2} r_3\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}-r_5\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}$$

	$\sigma_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^+}^{\#2}{}_{\alpha\beta}$	$\tau_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^-}^{\#1}{}_{\alpha}$	$\sigma_{1^-}^{\#2}{}_{\alpha}$	$\tau_{1^-}^{\#1}{}_{\alpha}$	$\tau_{1^-}^{\#2}{}_{\alpha}$
$\sigma_{1^+}^{\#1}\dagger^{\alpha\beta}$	$\frac{1}{k^2(2r_3+r_5)}$	$-\frac{\sqrt{2}}{k^2(1+k^2)(2r_3+r_5)}$	$-\frac{i\sqrt{2}}{k(1+k^2)(2r_3+r_5)}$	0	0	0	0
$\sigma_{1^+}^{\#2}\dagger^{\alpha\beta}$	$-\frac{\sqrt{2}}{k^2(1+k^2)(2r_3+r_5)}$	$\frac{3k^2(2r_3+r_5)+2t_2}{(k+k^3)^2(2r_3+r_5)t_2}$	$\frac{i(3k^2(2r_3+r_5)+2t_2)}{k(1+k^2)^2(2r_3+r_5)t_2}$	0	0	0	0
$\tau_{1^+}^{\#1}\dagger^{\alpha\beta}$	$\frac{i\sqrt{2}}{k(1+k^2)(2r_3+r_5)}$	$-\frac{i(3k^2(2r_3+r_5)+2t_2)}{k(1+k^2)^2(2r_3+r_5)t_2}$	$\frac{3k^2(2r_3+r_5)+2t_2}{(1+k^2)^2(2r_3+r_5)t_2}$	0	0	0	0
$\sigma_{1^-}^{\#1}\dagger^{\alpha}$	0	0	0	$\frac{2}{k^2(r_3+2r_5)}$	0	0	0
$\sigma_{1^-}^{\#2}\dagger^{\alpha}$	0	0	0	0	0	0	0
$\tau_{1^-}^{\#1}\dagger^{\alpha}$	0	0	0	0	0	0	0
$\tau_{1^-}^{\#2}\dagger^{\alpha}$	0	0	0	0	0	0	0

	$\omega_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^+}^{\#2}{}_{\alpha\beta}$	$f_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#1}{}_{\alpha}$	$\omega_{1^-}^{\#2}{}_{\alpha}$	$f_{1^-}^{\#1}{}_{\alpha}$	$f_{1^-}^{\#2}{}_{\alpha}$
$\omega_{1^+}^{\#1}\dagger^{\alpha\beta}$	$k^2(2r_3+r_5)+\frac{2t_2}{3}$	$\frac{\sqrt{2}t_2}{3}$	$\frac{1}{3} i\sqrt{2}\,k t_2$	0	0	0	0
$\omega_{1^+}^{\#2}\dagger^{\alpha\beta}$	$\frac{\sqrt{2}t_2}{3}$	$\frac{t_2}{3}$	$\frac{ik t_2}{3}$	0	0	0	0
$f_{1^+}^{\#1}\dagger^{\alpha\beta}$	$-\frac{1}{3} i\sqrt{2}\,k t_2$	$-\frac{1}{3} i k t_2$	$\frac{k^2 t_2}{3}$	0	0	0	0
$\omega_{1^-}^{\#1}\dagger^{\alpha}$	0	0	0	$\frac{1}{2} k^2(r_3+2r_5)$	0	0	0
$\omega_{1^-}^{\#2}\dagger^{\alpha}$	0	0	0	0	0	0	0
$f_{1^-}^{\#1}\dagger^{\alpha}$	0	0	0	0	0	0	0
$f_{1^-}^{\#2}\dagger^{\alpha}$	0	0	0	0	0	0	0

Source constraints

SO(3) irreps	#
$\tau_{0^+}^{\#2}==0$	1
$\tau_{0^+}^{\#1}==0$	1
$\sigma_{0^+}^{\#1}==0$	1
$\tau_{1^-}^{\#2\,\alpha}==0$	3
$\tau_{1^-}^{\#1\,\alpha}==0$	3
$\sigma_{1^-}^{\#2\,\alpha}==0$	3
$\tau_{1^+}^{\#1\,\alpha\beta}+i k\,\sigma_{1^+}^{\#2\,\alpha\beta}==0$	3
$\sigma_{2^-}^{\#1\,\alpha\beta\chi}==0$	5
$\tau_{2^+}^{\#1\,\alpha\beta}==0$	5
Total #:	25

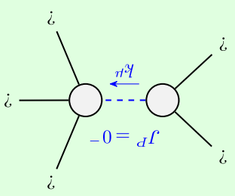
	$\omega_{2^+}^{\#1}{}_{\alpha\beta}$	$f_{2^+}^{\#1}{}_{\alpha\beta}$	$\omega_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\omega_{2^+}^{\#1}\dagger^{\alpha\beta}$	$-\frac{3k^2 r_3}{2}$	0	0
$f_{2^+}^{\#1}\dagger^{\alpha\beta}$	0	0	0
$\omega_{2^-}^{\#1}\dagger^{\alpha\beta\chi}$	0	0	0

	$\omega_{0^+}^{\#1}\dagger$	$f_{0^+}^{\#1}\dagger$	$f_{0^+}^{\#2}\dagger$	$\omega_{0^-}^{\#1}\dagger$
$\omega_{0^+}^{\#1}$	0	0	0	0
$f_{0^+}^{\#1}$	0	0	0	0
$f_{0^+}^{\#2}$	0	0	0	0
$\omega_{0^-}^{\#1}$	$k^2 r_2+t_2$	0	0	0

	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^-}^{\#1}$
$\sigma_{0^+}^{\#1}\dagger$	0	0	0	0
$\tau_{0^+}^{\#1}\dagger$	0	0	0	0
$\tau_{0^+}^{\#2}\dagger$	0	0	0	0
$\sigma_{0^-}^{\#1}\dagger$	0	0	0	$\frac{1}{k^2 r_2+t_2}$

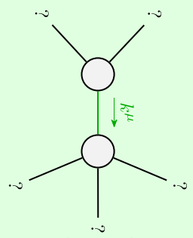
	$\sigma_{2^+}^{\#1}{}_{\alpha\beta}$	$\tau_{2^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\sigma_{2^+}^{\#1}\dagger^{\alpha\beta}$	$-\frac{2}{3k^2 r_3}$	0	0
$\tau_{2^+}^{\#1}\dagger^{\alpha\beta}$	0	0	0
$\sigma_{2^-}^{\#1}\dagger^{\alpha\beta\chi}$	0	0	0

Massive particle



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

Quadratic pole



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

Unitarity conditions

$$r_2<0\,\&\&\,r_3<0\,\&\&\,r_5<-\frac{r_3}{2}\,\&\&\,t_2>0\ ||\ r_2<0\,\&\&\,r_3<0\,\&\&\,r_5>-2\,r_3\,\&\&\,t_2>0\ ||$$
$$r_2<0\,\&\&\,r_3>0\,\&\&\,-2\,r_3<r_5<-\frac{r_3}{2}\,\&\&\,t_2>0$$