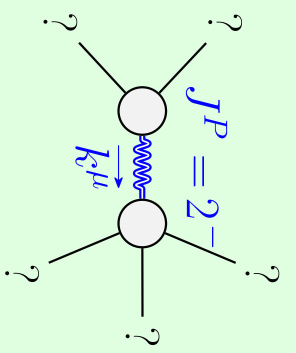

Massive particle	
Pole residue:	$-\frac{1}{r_1} > 0$
Polarisations:	5
Square mass:	$-\frac{t_1}{2 r_1} > 0$
Spin:	2
Parity:	Odd

Unitarity conditions

$r_1 > 0$ && $t_1 < 0$

(No massless particles)

Lagrangian density

$$-\frac{1}{3} t_1 \omega_{\iota}{}^{\alpha\iota} \omega_{\kappa\alpha}{}^{\kappa} + \frac{2}{3} t_3 \omega_{\iota}{}^{\alpha\iota} \omega_{\kappa\alpha}{}^{\kappa} - t_1 \omega_{\iota}{}^{\kappa\lambda} \omega_{\kappa\lambda}{}^{\iota} + r_1 \partial_{\iota}\omega^{\kappa\lambda}{}_{\kappa}\partial^{\iota}\omega_{\lambda}{}^{\alpha}{}_{\alpha} -$$
$$\frac{2}{3} r_1 \partial^{\beta}\omega^{\theta\alpha}{}_{\kappa} \partial_{\theta}\omega_{\alpha\beta}{}^{\kappa} - \frac{2}{3} r_1 \partial_{\theta}\omega_{\alpha\beta}{}^{\kappa}\partial_{\kappa}\omega^{\alpha\beta\theta} + \frac{2}{3} r_1 \partial_{\theta}\omega_{\alpha\beta}{}^{\kappa} \partial_{\kappa}\omega^{\theta\alpha\beta} +$$
$$r_1\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial_{\kappa}\omega^{\theta\kappa\lambda} - r_1\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\partial_{\kappa}\omega^{\theta\kappa\lambda} + r_1\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial_{\kappa}\omega^{\kappa\lambda\theta} -$$
$$2 r_1\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\partial_{\kappa}\omega^{\kappa\lambda\theta} - \frac{1}{2} t_1\partial^{\alpha} f_{\theta\kappa}\partial^{\kappa} f_{\alpha}{}^{\theta} - \frac{1}{2} t_1 \partial^{\alpha} f_{\kappa\theta}\partial^{\kappa} f_{\alpha}{}^{\theta} -$$
$$\frac{1}{2} t_1\partial^{\alpha} f^{\lambda}{}_{\kappa}\partial^{\kappa} f_{\alpha\lambda} + \frac{1}{3} t_1 \omega_{\kappa\alpha}{}^{\alpha}\partial^{\kappa} f^{\iota}{}_{\iota} - \frac{2}{3} t_3\omega_{\kappa\alpha}{}^{\alpha}\partial^{\kappa} f^{\iota}{}_{\iota} + \frac{1}{3} t_1\omega_{\kappa\lambda}{}^{\lambda}\partial^{\kappa} f^{\iota}{}_{\iota} -$$
$$\frac{2}{3} t_3\omega_{\kappa\lambda}{}^{\lambda}\partial^{\kappa} f^{\iota}{}_{\iota} + \frac{2}{3} t_1\partial^{\alpha} f_{\kappa\alpha}\partial^{\kappa} f^{\iota}{}_{\iota} - \frac{4}{3} t_3\partial^{\alpha} f_{\kappa\alpha}\partial^{\kappa} f^{\iota}{}_{\iota} - \frac{1}{3} t_1\partial_{\kappa} f^{\lambda}{}_{\lambda}\partial^{\kappa} f^{\iota}{}_{\iota} +$$
$$\frac{2}{3} t_3\partial_{\kappa} f^{\lambda}{}_{\lambda}\partial^{\kappa} f^{\iota}{}_{\iota} + 2 t_1\omega_{\iota\kappa\theta}\partial^{\kappa} f^{\iota\theta} - \frac{1}{3} t_1\omega_{\iota\alpha}{}^{\alpha}\partial^{\kappa} f^{\iota}{}_{\kappa} + \frac{2}{3} t_3\omega_{\iota\alpha}{}^{\alpha}\partial^{\kappa} f^{\iota}{}_{\kappa} -$$
$$\frac{1}{3} t_1\omega_{\iota\lambda}{}^{\lambda}\partial^{\kappa} f^{\iota}{}_{\kappa} + \frac{2}{3} t_3\omega_{\iota\lambda}{}^{\lambda}\partial^{\kappa} f^{\iota}{}_{\kappa} + \frac{1}{2} t_1\partial^{\alpha} f^{\lambda}{}_{\kappa}\partial^{\kappa} f_{\lambda\alpha} + \frac{1}{2} t_1\partial_{\kappa} f_{\theta}{}^{\lambda}\partial^{\kappa} f_{\lambda}{}^{\theta} +$$
$$\frac{1}{2} t_1\partial_{\kappa} f^{\lambda}{}_{\theta}\partial^{\kappa} f_{\lambda}{}^{\theta} - \frac{1}{3} t_1\partial^{\alpha} f^{\lambda}{}_{\alpha}\partial^{\kappa} f_{\lambda\kappa} + \frac{2}{3} t_3\partial^{\alpha} f^{\lambda}{}_{\alpha}\partial^{\kappa} f_{\lambda\kappa} +$$
$$\frac{2}{3} r_1\partial_{\kappa}\omega^{\alpha\beta\theta}\partial^{\kappa}\omega_{\alpha\beta\theta} - \frac{2}{3} r_1\partial_{\kappa}\omega^{\theta\alpha\beta}\partial^{\kappa}\omega_{\alpha\beta\theta} + \frac{2}{3} r_1\partial^{\beta}\omega_{\iota}{}^{\alpha\lambda}\partial_{\lambda}\omega_{\alpha\beta}{}^{\iota} -$$
$$\frac{8}{3} r_1\partial^{\beta}\omega_{\iota}{}^{\lambda\alpha}\partial_{\lambda}\omega_{\alpha\beta}{}^{\iota} - r_1\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa} + r_1\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}$$

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

	$\sigma^{\#1}_{1^+\alpha\beta}$	$\sigma^{\#2}_{1^+\alpha\beta}$	$\tau^{\#1}_{1^+\alpha\beta}$	$\sigma^{\#1}_{1^-\alpha}$	$\sigma^{\#2}_{1^-\alpha}$	$\tau^{\#1}_{1^-\alpha}$	$\tau^{\#2}_{1^-\alpha}$
$\sigma^{\#1}_{1^+}\dagger^{\alpha\beta}$	0	$-\frac{\sqrt{2}}{t_1+k^2 t_1}$	$-\frac{i\sqrt{2}k}{t_1+k^2 t_1}$	0	0	0	0
$\sigma^{\#2}_{1^+}\dagger^{\alpha\beta}$	$-\frac{\sqrt{2}}{t_1+k^2 t_1}$	$\frac{-2k^2 r_1+t_1}{(1+k^2)^2 t_1^2}$	$-\frac{i(2k^3 r_1-k t_1)}{(1+k^2)^2 t_1^2}$	0	0	0	0
$\tau^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\frac{i\sqrt{2}k}{t_1+k^2 t_1}$	$\frac{i(2k^3 r_1-k t_1)}{(1+k^2)^2 t_1^2}$	$\frac{-2k^4 r_1+k^2 t_1}{(1+k^2)^2 t_1^2}$	0	0	0	0
$\sigma^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{2(t_1+t_3)}{3 t_1 t_3}$	$-\frac{\sqrt{2}(t_1-2t_3)}{3(1+2k^2)t_1 t_3}$	0	$-\frac{2ikt_1-4ikt_3}{3t_1t_3+6k^2t_1t_3}$
$\sigma^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$-\frac{\sqrt{2}(t_1-2t_3)}{3(1+2k^2)t_1t_3}$	$\frac{t_1+4t_3}{3(1+2k^2)^2 t_1 t_3}$	0	$\frac{i\sqrt{2}k(t_1+4t_3)}{3(1+2k^2)^2 t_1 t_3}$
$\tau^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	0	0	0
$\tau^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{2ik(t_1-2t_3)}{3t_1t_3+6k^2t_1t_3}$	$-\frac{i\sqrt{2}k(t_1+4t_3)}{3(1+2k^2)^2 t_1 t_3}$	0	$\frac{2k^2(t_1+4t_3)}{3(1+2k^2)^2 t_1 t_3}$

	$\omega^{\#1}_{1^+\alpha\beta}$	$\omega^{\#2}_{1^+\alpha\beta}$	$f^{\#1}_{1^+\alpha\beta}$	$\omega^{\#1}_{1^-\alpha}$	$\omega^{\#2}_{1^-\alpha}$	$f^{\#1}_{1^-\alpha}$	$f^{\#2}_{1^-\alpha}$
$\omega^{\#1}_{1^+}\dagger^{\alpha\beta}$	$k^2 r_1-\frac{t_1}{2}$	$-\frac{t_1}{\sqrt{2}}$	$-\frac{ikt_1}{\sqrt{2}}$	0	0	0	0
$\omega^{\#2}_{1^+}\dagger^{\alpha\beta}$	$-\frac{t_1}{\sqrt{2}}$	0	0	0	0	0	0
$f^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\frac{ikt_1}{\sqrt{2}}$	0	0	0	0	0	0
$\omega^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{1}{6}(t_1+4t_3)$	$\frac{t_1-2t_3}{3\sqrt{2}}$	0	$\frac{1}{3} i k(t_1-2t_3)$
$\omega^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{t_1-2t_3}{3\sqrt{2}}$	$\frac{t_1+t_3}{3}$	0	$\frac{1}{3} i\sqrt{2}k(t_1+t_3)$
$f^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	0	0	0
$f^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$-\frac{1}{3} i k(t_1-2t_3)$	$-\frac{1}{3} i\sqrt{2}k(t_1+t_3)$	0	$\frac{2}{3}k^2(t_1+t_3)$

	$\sigma^{\#1}_{0^+}$	$\tau^{\#1}_{0^+}$	$\tau^{\#2}_{0^+}$	$\sigma^{\#1}_{0^-}$
$\sigma^{\#1}_{0^+}\dagger$	$\frac{1}{(1+2k^2)^2 t_3}$	$-\frac{i\sqrt{2}k}{(1+2k^2)^2 t_3}$	0	0
$\tau^{\#1}_{0^+}\dagger$	$\frac{i\sqrt{2}k}{(1+2k^2)^2 t_3}$	$\frac{2k^2}{(1+2k^2)^2 t_3}$	0	0
$\tau^{\#2}_{0^+}\dagger$	0	0	0	0
$\sigma^{\#1}_{0^-}\dagger$	0	0	0	$-\frac{1}{t_1}$

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

	$\omega^{\#1}_{0^+}$	$f^{\#1}_{0^+}$	$f^{\#2}_{0^+}$	$\omega^{\#1}_{0^-}$
$\omega^{\#1}_{0^+}\dagger$	t_3	$-i\sqrt{2}kt_3$	0	0
$f^{\#1}_{0^+}\dagger$	$i\sqrt{2}kt_3$	$2k^2 t_3$	0	0
$f^{\#2}_{0^+}\dagger$	0	0	0	0
$\omega^{\#1}_{0^-}\dagger$	0	0	0	$-t_1$

Source constraints

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

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