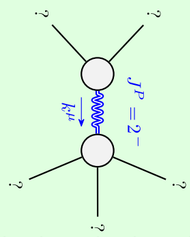

Massive particle	
Pole residue:	$-\frac{1}{r_1} > 0$
Polarisations:	5
Square mass:	$-\frac{t_1}{2 r_1} > 0$
Spin:	2
Parity:	Odd

Unitarity conditions

$r_1 < 0 \;\&\&\; t_1 > 0$

(No massless particles)

Lagrangian density

$$
\begin{aligned}
&-t_1\,\omega_{\iota}{}^{\alpha\iota}\,\omega_{\kappa\alpha}{}^{\kappa} - \tfrac{1}{3} t_1\,\omega_{\iota}{}^{\kappa\lambda}\,\omega_{\kappa\lambda}{}^{\prime} + \tfrac{2}{3} t_2\,\omega_{\iota}{}^{\kappa\lambda}\,\omega_{\kappa\lambda}{}^{\prime} + \tfrac{1}{3} t_1\,\omega_{\kappa\lambda}{}^{\prime}\,\omega^{\kappa\lambda}{}_{\iota} + \\
&\tfrac{1}{3} t_2\,\omega_{\kappa\lambda}{}^{\prime}\,\omega^{\kappa\lambda}{}_{\iota} + 2 r_1\,\partial_{\iota}\omega^{\kappa\lambda}{}_{\kappa}\partial^{\prime}\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_1\,\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} + 2 r_1\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial_{\kappa}\omega^{\theta\kappa\lambda} - \\
&2 r_1\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\partial_{\kappa}\omega^{\theta\kappa\lambda} + 2 r_1\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial_{\kappa}\omega^{\kappa\lambda\theta} - 4 r_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^{\prime}{}_{\iota} + \\
&t_1\,\omega_{\kappa\lambda}{}^{\lambda}\,\partial^{\kappa} f^{\prime}{}_{\iota} + 2 t_1\,\partial^{\alpha} f_{\kappa\alpha}\partial^{\kappa} f^{\prime}{}_{\iota} - t_1\,\partial_{\kappa} f^{\lambda}{}_{\lambda}\partial^{\kappa} f^{\prime}{}_{\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^{\prime}{}_{\kappa} - \\
&t_1\,\omega_{\iota\lambda}{}^{\lambda}\,\partial^{\kappa} f^{\prime}{}_{\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{2}{3} r_1\,\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}{}^{\prime} - \\
&\tfrac{8}{3} r_1\,\partial^{\beta}\omega_{\iota}{}^{\lambda\alpha}\partial_{\lambda}\omega_{\alpha\beta}{}^{\prime} - 2 r_1\,\partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa} + 2 r_1\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}
\end{aligned}
$$

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

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

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

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

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
$\tau^{\#1\,\alpha\beta}_{1^+} + i k\,\sigma^{\#2\,\alpha\beta}_{1^+} == 0$	3
$\tau^{\#1\,\alpha\beta}_{2^+} - 2 i k\,\sigma^{\#1\,\alpha\beta}_{2^+} == 0$	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	$k^2 r_1 + \frac{t_1}{2}$

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

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