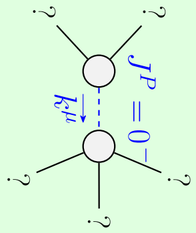

Massive particle	
Pole residue:	$-\frac{1}{r_2} > 0$
Polarisations:	1
Square mass:	$-\frac{t_2}{r_2} > 0$
Spin:	0
Parity:	Odd

Unitarity conditions

$r_2 < 0 \;\&\&\; t_2 > 0$

(No massless particles)

Lagrangian density

$$\frac{2}{3} t_3\ \omega_{\iota}{}^{\alpha\prime}\ \omega_{\kappa\alpha}{}^{\kappa} + \frac{2}{3} t_2\ \omega_{\iota}{}^{\kappa\lambda}\ \omega_{\kappa\lambda}{}' + \frac{1}{3} t_2\ \omega_{\kappa\lambda}{}'\ \omega^{\kappa\lambda}{}_{\iota} +$$
$$\frac{3}{2} r_3\, \partial_\iota \omega^{\kappa\lambda}{}_{\kappa}\, \partial' \omega_{\lambda}{}^{\alpha}{}_{\alpha} + \frac{2}{3} r_2\, \partial^\beta \omega^{\theta\alpha}{}_{\kappa}\, \partial_\theta \omega_{\alpha\beta}{}^{\kappa} - \frac{1}{3} r_2\, \partial_\theta \omega_{\alpha\beta}{}^{\kappa}\, \partial_\kappa \omega^{\alpha\beta\theta} -$$
$$\frac{2}{3} r_2\, \partial_\theta \omega_{\alpha\beta}{}^{\kappa}\, \partial_\kappa \omega^{\theta\alpha\beta} + \frac{5}{2} r_3\, \partial_\alpha \omega_{\lambda}{}^{\alpha}{}_{\theta}\, \partial_\kappa \omega^{\theta\kappa\lambda} - \frac{5}{2} r_3\, \partial_\theta \omega_{\lambda}{}^{\alpha}{}_{\alpha}\, \partial_\kappa \omega^{\theta\kappa\lambda} +$$
$$\frac{3}{2} r_3\, \partial_\alpha \omega_{\lambda}{}^{\alpha}{}_{\theta}\, \partial_\kappa \omega^{\kappa\lambda\theta} - 3\, r_3\, \partial_\theta \omega_{\lambda}{}^{\alpha}{}_{\alpha}\, \partial_\kappa \omega^{\kappa\lambda\theta} + \frac{1}{6} t_2\, \partial^\alpha f_{\theta\kappa}\, \partial^\kappa f_{\alpha}{}^{\theta} -$$
$$\frac{1}{6} t_2\, \partial^\alpha f_{\kappa\theta}\, \partial^\kappa f_{\alpha}{}^{\theta} + \frac{1}{6} t_2\, \partial^\alpha f^{\lambda}{}_{\kappa}\, \partial^\kappa f_{\alpha\lambda} - \frac{2}{3} t_3\ \omega_{\kappa\alpha}{}^{\alpha}\, \partial^\kappa f'_{\iota} -$$
$$\frac{2}{3} t_3\ \omega_{\kappa\lambda}{}^{\lambda}\, \partial^\kappa f'_{\iota} - \frac{4}{3} t_3\, \partial^\alpha f_{\kappa\alpha}\, \partial^\kappa f'_{\iota} + \frac{2}{3} t_3\, \partial_\kappa f^{\lambda}{}_{\lambda}\, \partial^\kappa f'_{\iota} + \frac{1}{3} t_2\ \omega_{\iota\theta\kappa}\, \partial^\kappa f'^{\theta} -$$
$$\frac{2}{3} t_2\ \omega_{\iota\kappa\theta}\, \partial^\kappa f'^{\theta} - \frac{1}{3} t_2\ \omega_{\theta\iota\kappa}\, \partial^\kappa f'^{\theta} + \frac{2}{3} t_2\ \omega_{\theta\kappa\iota}\, \partial^\kappa f'^{\theta} + \frac{2}{3} t_3\ \omega_{\iota\alpha}{}^{\alpha}\, \partial^\kappa f'_{\kappa} +$$
$$\frac{2}{3} t_3\ \omega_{\iota\lambda}{}^{\lambda}\, \partial^\kappa f'_{\kappa} - \frac{1}{6} t_2\, \partial^\alpha f^{\lambda}{}_{\kappa}\, \partial^\kappa f_{\lambda\alpha} - \frac{1}{6} t_2\, \partial_\kappa f_{\theta}{}^{\lambda}\, \partial^\kappa f_{\lambda}{}^{\theta} +$$
$$\frac{1}{6} t_2\, \partial_\kappa f^{\lambda}{}_{\theta}\, \partial^\kappa f_{\lambda}{}^{\theta} + \frac{2}{3} t_3\, \partial^\alpha f^{\lambda}{}_{\alpha}\, \partial^\kappa f_{\lambda\kappa} + \frac{1}{3} r_2\, \partial_\kappa \omega^{\alpha\beta\theta}\, \partial^\kappa \omega_{\alpha\beta\theta} +$$
$$\frac{2}{3} r_2\, \partial_\kappa \omega^{\theta\alpha\beta}\, \partial^\kappa \omega_{\alpha\beta\theta} - \frac{2}{3} r_2\, \partial^\beta \omega_{\iota}{}^{\alpha\lambda}\, \partial_\lambda \omega_{\alpha\beta}{}' + \frac{2}{3} r_2\, \partial^\beta \omega_{\iota}{}^{\lambda\alpha}\, \partial_\lambda \omega_{\alpha\beta}{}' -$$
$$4\, r_3\, \partial^\beta \omega_{\iota}{}^{\lambda\alpha}\, \partial_\lambda \omega_{\alpha\beta}{}' - \frac{5}{2} r_3\, \partial_\alpha \omega_{\lambda}{}^{\alpha}{}_{\theta}\, \partial^\lambda \omega^{\theta\kappa}{}_{\kappa} + \frac{5}{2} r_3\, \partial_\theta \omega_{\lambda}{}^{\alpha}{}_{\alpha}\, \partial^\lambda \omega^{\theta\kappa}{}_{\kappa}$$

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

	$\sigma_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^+}^{\#2}{}_{\alpha\beta}$	$\tau_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^-}^{\#1}{}_{\alpha}$	$\sigma_{1^-}^{\#2}{}_{\alpha}$	$\tau_{1^-}^{\#1}{}_{\alpha}$	$\tau_{1^-}^{\#2}{}_{\alpha}$
$\sigma_{1^+}^{\#1}\,\dagger^{\alpha\beta}$	$\frac{6}{(3+k^2)^2 t_2}$	$\frac{3\sqrt{2}}{(3+k^2)^2 t_2}$	$\frac{3i\sqrt{2}\,k}{(3+k^2)^2 t_2}$	0	0	0	0
$\sigma_{1^+}^{\#2}\,\dagger^{\alpha\beta}$	$\frac{3\sqrt{2}}{(3+k^2)^2 t_2}$	$\frac{3}{(3+k^2)^2 t_2}$	$\frac{3ik}{(3+k^2)^2 t_2}$	0	0	0	0
$\tau_{1^+}^{\#1}\,\dagger^{\alpha\beta}$	$-\frac{3i\sqrt{2}\,k}{(3+k^2)^2 t_2}$	$-\frac{3ik}{(3+k^2)^2 t_2}$	$\frac{3k^2}{(3+k^2)^2 t_2}$	0	0	0	0
$\sigma_{1^-}^{\#1}\,\dagger^{\alpha}$	0	0	0	$-\frac{2}{3k^2 r_3}$	$-\frac{2\sqrt{2}}{3k^2 r_3+6k^4 r_3}$	0	$-\frac{4i}{3k r_3+6k^3 r_3}$
$\sigma_{1^-}^{\#2}\,\dagger^{\alpha}$	0	0	0	$-\frac{2\sqrt{2}}{3k^2 r_3+6k^4 r_3}$	$\frac{9k^2 r_3-4t_3}{3(k+2k^3)^2 r_3 t_3}$	0	$\frac{i\sqrt{2}\,(9k^2 r_3-4t_3)}{3k(1+2k^2)^2 r_3 t_3}$
$\tau_{1^-}^{\#1}\,\dagger^{\alpha}$	0	0	0	0	0	0	0
$\tau_{1^-}^{\#2}\,\dagger^{\alpha}$	0	0	0	$\frac{4i}{3k r_3+6k^3 r_3}$	$-\frac{i\sqrt{2}\,(9k^2 r_3-4t_3)}{3k(1+2k^2)^2 r_3 t_3}$	0	$\frac{2(9k^2 r_3-4t_3)}{3(1+2k^2)^2 r_3 t_3}$

	$\omega_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^+}^{\#2}{}_{\alpha\beta}$	$f_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#1}{}_{\alpha}$	$\omega_{1^-}^{\#2}{}_{\alpha}$	$f_{1^-}^{\#1}{}_{\alpha}$	$f_{1^-}^{\#2}{}_{\alpha}$
$\omega_{1^+}^{\#1}\,\dagger^{\alpha\beta}$	$\frac{2t_2}{3}$	$\frac{\sqrt{2}\,t_2}{3}$	$\frac{1}{3} i\sqrt{2}\,k t_2$	0	0	0	0
$\omega_{1^+}^{\#2}\,\dagger^{\alpha\beta}$	$\frac{\sqrt{2}\,t_2}{3}$	$\frac{t_2}{3}$	$\frac{ikt_2}{3}$	0	0	0	0
$f_{1^+}^{\#1}\,\dagger^{\alpha\beta}$	$-\frac{1}{3} i\sqrt{2}\,k t_2$	$-\frac{1}{3} ikt_2$	$\frac{k^2 t_2}{3}$	0	0	0	0
$\omega_{1^-}^{\#1}\,\dagger^{\alpha}$	0	0	0	$\frac{1}{6}(-9k^2 r_3 + 4t_3)$	$-\frac{\sqrt{2}\,t_3}{3}$	0	$-\frac{2}{3} ikt_3$
$\omega_{1^-}^{\#2}\,\dagger^{\alpha}$	0	0	0	$-\frac{\sqrt{2}\,t_3}{3}$	$\frac{t_3}{3}$	0	$\frac{1}{3} i\sqrt{2}\,k t_3$
$f_{1^-}^{\#1}\,\dagger^{\alpha}$	0	0	0	0	0	0	0
$f_{1^-}^{\#2}\,\dagger^{\alpha}$	0	0	0	$\frac{2ikt_3}{3}$	$-\frac{1}{3} i\sqrt{2}\,k t_3$	0	$\frac{2k^2 t_3}{3}$

Source constraints

SO(3) irreps	#
$\tau_{0^+}^{\#2} == 0$	1
$\tau_{0^+}^{\#1} - 2ik\,\sigma_{0^+}^{\#1} == 0$	1
$\tau_{1^-}^{\#2\,\alpha} + 2ik\ \sigma_{1^-}^{\#2\,\alpha} == 0$	3
$\tau_{1^-}^{\#1\,\alpha} == 0$	3
$\tau_{1^+}^{\#1\,\alpha\beta} + ik\ \sigma_{1^+}^{\#1\,\alpha\beta} == 0$	3
$\sigma_{1^+}^{\#1\,\alpha\beta} == \sigma_{1^+}^{\#2\,\alpha\beta}$	3
$\sigma_{2^-}^{\#1\,\alpha\beta\chi} == 0$	5
$\tau_{2^+}^{\#1\,\alpha\beta} == 0$	5
Total #:	24

	$\omega_{0^+}^{\#1}\,\dagger$	$f_{0^+}^{\#2}\,\dagger$	$f_{0^+}^{\#1}\,\dagger$	$\omega_{0^+}^{\#1}\,\dagger$
$\omega_{0^+}^{\#1}$	0	0	$i\sqrt{2}\,k t_3$	t_3
$f_{0^+}^{\#1}$	0	0	$2k^2 t_3$	$-i\sqrt{2}\,k t_3$
$f_{0^+}^{\#2}$	0	0	0	0
$\omega_{0^-}^{\#1}$	$k^2 r_2 + t_2$	0	0	0

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

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

	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^-}^{\#1}$
$\sigma_{0^+}^{\#1}\,\dagger$	$\frac{1}{(1+2k^2)^2 t_3}$	$-\frac{i\sqrt{2}\,k}{(1+2k^2)^2 t_3}$	0	0
$\tau_{0^+}^{\#1}\,\dagger$	$\frac{i\sqrt{2}\,k}{(1+2k^2)^2 t_3}$	$\frac{2k^2}{(1+2k^2)^2 t_3}$	0	0
$\tau_{0^+}^{\#2}\,\dagger$	0	0	0	0
$\sigma_{0^-}^{\#1}\,\dagger$	0	0	0	$\frac{1}{k^2 r_2 + t_2}$