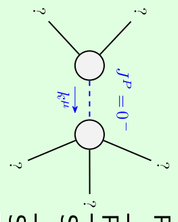

Massive particle	
Pole residue:	$-\frac{1}{r_2} > 0$
Polarisations:	1
Square mass:	$-\frac{t_2}{r_2} > 0$
Spin:	0
Parity:	Odd

Unitarity conditions

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

(No massless particles)

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

Lagrangian density

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

	$\omega^{\#1}_{1^+}{}_{\alpha\beta}$	$\omega^{\#2}_{1^+}{}_{\alpha\beta}$	$f^{\#1}_{1^+}{}_{\alpha\beta}$	$\omega^{\#1}_{1^-}{}_{\alpha}$	$\omega^{\#2}_{1^-}{}_{\alpha}$	$f^{\#1}_{1^-}{}_{\alpha}$	$f^{\#2}_{1^-}{}_{\alpha}$
$\omega^{\#1}_{1^+}{}^{\dagger\alpha\beta}$	$\frac{2t_2}{3}$	$\frac{\sqrt{2}\,t_2}{3}$	$\frac{1}{3} i\sqrt{2}\,k t_2$	0	0	0	0
$\omega^{\#2}_{1^+}{}^{\dagger\alpha\beta}$	$\frac{\sqrt{2}\,t_2}{3}$	$\frac{t_2}{3}$	$\frac{ikt_2}{3}$	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	$-\frac{2}{3} ikt_3$
$\omega^{\#2}_{1^-}{}^{\dagger\alpha}$	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
$f^{\#2}_{1^-}{}^{\dagger\alpha}$	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	
1	$\tau^{\#2}_{0^+} == 0$	
1	$\tau^{\#1}_{0^+} - 2ik\,\sigma^{\#1}_{0^+} == 0$	
3	$\tau^{\#2\alpha}_{1^-} + 2ik\,\sigma^{\#2\alpha}_{1^-} == 0$	
3	$\tau^{\#1\alpha}_{1^-} == 0$	
3	$\tau^{\#1\alpha\beta}_{1^+} + ik\,\sigma^{\#1\alpha\beta}_{1^+} == 0$	
3	$\sigma^{\#1\alpha\beta}_{1^+} == \sigma^{\#2\alpha\beta}_{1^+}$	
5	$\sigma^{\#1\alpha\beta\chi}_{2^-} == 0$	
5	$\tau^{\#1\alpha\beta}_{2^+} == 0$	
24	Total #:	

	$\omega^{\#1}_{0^+}$	$f^{\#1}_{0^+}$	$f^{\#2}_{0^+}$	$\omega^{\#1}_{0^-}$
$\omega^{\#1}_{0^+}{}^{\dagger}$	t_3	$-i\sqrt{2}\,k t_3$	0	0
$f^{\#1}_{0^+}{}^{\dagger}$	$i\sqrt{2}\,k t_3$	$2k^2 t_3$	0	0
$f^{\#2}_{0^+}{}^{\dagger}$	0	0	0	0
$\omega^{\#1}_{0^-}{}^{\dagger}$	0	0	0	$k^2 r_2 + t_2$

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

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

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