	$\omega_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^+}^{\#2}{}_{\alpha\beta}$	$f_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#1}{}_{\alpha}$	$\omega_{1^-}^{\#2}{}_{\alpha}$	$f_{1^-}^{\#1}{}_{\alpha}$	$f_{1^-}^{\#2}{}_{\alpha}$
$\omega_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	$k^2 r_5 - \frac{t_1}{2}$	$-\frac{t_1}{\sqrt{2}}$	$-\frac{i k t_1}{\sqrt{2}}$	0	0	0	0
$\omega_{1^+}^{\#2}{}^{\dagger\alpha\beta}$	$-\frac{t_1}{\sqrt{2}}$	0	0	0	0	0	0
$f_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	$\frac{i k t_1}{\sqrt{2}}$	0	0	0	0	0	0
$\omega_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0	$\frac{1}{6}(6 k^2 r_5 + t_1 + 4 t_3)$	$\frac{t_1 - 2 t_3}{3\sqrt{2}}$	0	$\frac{1}{3} i k (t_1 - 2 t_3)$
$\omega_{1^-}^{\#2}{}^{\dagger\alpha}$	0	0	0	$\frac{t_1 - 2 t_3}{3\sqrt{2}}$	$\frac{t_1 + t_3}{3}$	0	$\frac{1}{3} i \sqrt{2}\, k (t_1 + t_3)$
$f_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0	0	0	0	0
$f_{1^-}^{\#2}{}^{\dagger\alpha}$	0	0	0	$-\frac{1}{3} i k (t_1 - 2 t_3)$	$-\frac{1}{3} i \sqrt{2}\, k (t_1 + t_3)$	0	$\frac{2}{3} k^2 (t_1 + t_3)$

	$\omega_{0^+}^{\#1}$	$f_{0^+}^{\#1}$	$f_{0^+}^{\#2}$	$\omega_{0^-}^{\#1}$
$\omega_{0^+}^{\#1}{}^{\dagger}$	t_3	$-i\sqrt{2}\, k t_3$	0	0
$f_{0^+}^{\#1}{}^{\dagger}$	$i\sqrt{2}\, k t_3$	$2 k^2 t_3$	0	0
$f_{0^+}^{\#2}{}^{\dagger}$	0	0	0	0
$\omega_{0^-}^{\#1}{}^{\dagger}$	0	0	0	$k^2 r_2 - t_1$

	$\omega_{2^+}^{\#1}{}_{\alpha\beta}$	$f_{2^+}^{\#1}{}_{\alpha\beta}$	$\omega_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\omega_{2^+}^{\#1}{}^{\dagger\alpha\beta}$	$\frac{t_1}{2}$	$-\frac{i k t_1}{\sqrt{2}}$	0
$f_{2^+}^{\#1}{}^{\dagger\alpha\beta}$	$\frac{i k t_1}{\sqrt{2}}$	$k^2 t_1$	0
$\omega_{2^-}^{\#1}{}^{\dagger\alpha\beta\chi}$	0	0	$\frac{t_1}{2}$

	$\sigma_{1^-}^{\#1}{}_{\alpha}$	$\sigma_{1^-}^{\#2}{}_{\alpha}$	$\tau_{1^-}^{\#1}{}_{\alpha}$	$\tau_{1^-}^{\#2}{}_{\alpha}$
$\sigma_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	0	0	0	0
$\sigma_{1^+}^{\#2}{}^{\dagger\alpha\beta}$	0	0	0	0
$\tau_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	0	0	0	0
$\sigma_{1^-}^{\#1}{}^{\dagger\alpha}$	$\frac{2(t_1+t_3)}{3t_1t_3+2k^2r_5(t_1+t_3)}$	$\frac{\sqrt{2}(t_1-2t_3)}{(1+2k^2)(3t_1t_3+2k^2r_5(t_1+t_3))}$	$\frac{2ik(t_1-2t_3)}{(1+2k^2)(3t_1t_3+2k^2r_5(t_1+t_3))}$	$-\frac{2ik(t_1-2t_3)}{(1+2k^2)(3t_1t_3+2k^2r_5(t_1+t_3))}$
$\sigma_{1^-}^{\#2}{}^{\dagger\alpha}$	$\frac{\sqrt{2}(t_1-2t_3)}{(1+2k^2)(3t_1t_3+2k^2r_5(t_1+t_3))}$	$\frac{6k^2r_5+t_1+4t_3}{(1+2k^2)^2(3t_1t_3+2k^2r_5(t_1+t_3))}$	$\frac{i\sqrt{2}k(6k^2r_5+t_1+4t_3)}{(1+2k^2)^2(3t_1t_3+2k^2r_5(t_1+t_3))}$	$-\frac{i\sqrt{2}k(6k^2r_5+t_1+4t_3)}{(1+2k^2)^2(3t_1t_3+2k^2r_5(t_1+t_3))}$
$\tau_{1^+}^{\#1}{}^{\dagger\alpha}$	0	0	0	0
$\tau_{1^-}^{\#2}{}^{\dagger\alpha}$	0	0	0	$\frac{2k^2(6k^2r_5+t_1+4t_3)}{(1+2k^2)^2(3t_1t_3+2k^2r_5(t_1+t_3))}$

	$\sigma_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^+}^{\#2}{}_{\alpha\beta}$	$\tau_{1^+}^{\#1}{}_{\alpha\beta}$
$\sigma_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	0	$-\frac{\sqrt{2}}{t_1+k^2t_1}$	$-\frac{i\sqrt{2}\,k}{t_1+k^2t_1}$
$\sigma_{1^+}^{\#2}{}^{\dagger\alpha\beta}$	$-\frac{\sqrt{2}}{t_1+k^2t_1}$	$-\frac{2k^2r_5+t_1}{(1+k^2)^2t_1^2}$	$-\frac{i(2k^3r_5-kt_1)}{(1+k^2)^2t_1^2}$
$\tau_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	$\frac{i\sqrt{2}\,k}{t_1+k^2t_1}$	$\frac{i(2k^3r_5-kt_1)}{(1+k^2)^2t_1^2}$	$\frac{-2k^4r_5+k^2t_1}{(1+k^2)^2t_1^2}$
$\sigma_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0
$\sigma_{1^-}^{\#2}{}^{\dagger\alpha}$	0	0	0
$\tau_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0
$\tau_{1^-}^{\#2}{}^{\dagger\alpha}$	0	0	0

Lagrangian density

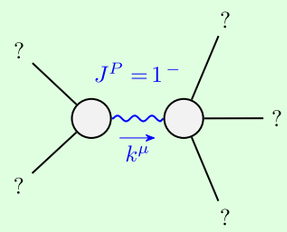
$$
\begin{aligned}
&-\frac{1}{3}t_1\,\omega_{I}^{\alpha\prime}\,\omega_{\kappa\alpha}^{\ \ \kappa}+\frac{2}{3}t_3\,\omega_{I}^{\alpha\prime}\,\omega_{\kappa\alpha}^{\ \ \kappa\lambda}\,\omega_{\lambda\kappa}'+f^{\alpha\beta}\,\tau_{\alpha\beta}+\\
&\omega^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi}-r_5\,\partial_I\omega^{\kappa\lambda}\,\partial'\omega_{\lambda\ \alpha}^{\ \kappa}+\frac{2}{3}r_2\,\partial^\beta\omega^{\theta\alpha}\,\partial_\theta\omega_{\kappa\beta}^{\ \ \kappa}-\\
&\frac{2}{3}r_2\,\partial_\theta\omega_{\alpha\beta}^{\ \ \kappa}\,\partial_\kappa\omega^{\theta\alpha\beta}-r_5\,\partial_\alpha\omega_{\lambda\ \theta}^{\ \alpha}\,\partial_\kappa\omega^{\theta\kappa\lambda}+r_5\,\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}{2}t_1\,\partial^\alpha f_{\theta\kappa}\,\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_{I}'-\frac{2}{3}t_3\,\omega_{\kappa\alpha}^{\ \ \alpha}\,\partial^\kappa f_{I}'+\frac{1}{3}t_1\,\omega_{\kappa\lambda}^{\ \ \lambda}\,\partial^\kappa f_{I}'+\\
&\frac{2}{3}t_1\,\partial^\alpha f_{\kappa\alpha}\,\partial^\kappa f_{I}'-\frac{4}{3}t_3\,\partial^\alpha f_{\kappa\alpha}\,\partial^\kappa f_{I}'-\frac{1}{3}t_1\,\partial_\kappa f^{\lambda}_{\ \lambda}\,\partial^\kappa f_{I}'+\\
&2\,t_1\,\omega_{I\kappa\theta}\,\partial^\kappa f'^{I\theta}-\frac{1}{3}t_1\,\omega_{I\alpha}^{\ \ \alpha}\,\partial^\kappa f_{\kappa}'+\frac{2}{3}t_3\,\omega_{I\alpha}^{\ \ \alpha}\,\partial^\kappa f_{\kappa}'+\\
&\frac{2}{3}t_3\,\omega_{I\lambda}^{\ \ \lambda}\,\partial^\kappa f'_{\ \kappa}+\frac{1}{2}t_1\,\partial^\alpha f^{\lambda}_{\ \kappa}\,\partial^\kappa f_{\lambda\alpha}+\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{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_{I}^{\ \alpha\lambda}\,\partial_\lambda\omega_{\alpha\beta}'+\frac{2}{3}r_2\,\partial^\beta\omega_{I}^{\ \lambda\alpha}\,\partial_\lambda\omega_{\alpha\beta}'+r_5\,\partial_\alpha\omega_{\lambda\ \theta}^{\ \alpha}\,\partial^\lambda\omega^{\theta\kappa}{}_{\kappa}-r_5\,\partial_\theta\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial^\lambda\omega^{\theta\kappa}{}_{\kappa}
\end{aligned}
$$

Source constraints

SO(3) irreps	#
$\tau_{0^+}^{\#2} == 0$	1
$\tau_{0^+}^{\#1} - 2\,i\,k\,\sigma_{0^+}^{\#1} == 0$	1
$\tau_{1^-}^{\#2\,\alpha} + 2\,i\,k\,\sigma_{1^-}^{\#2\,\alpha} == 0$	3
$\tau_{1^-}^{\#1\,\alpha} == 0$	3
$\tau_{1^+}^{\#1\,\alpha\beta} + i\,k\,\sigma_{1^+}^{\#2\,\alpha\beta} == 0$	3
$\tau_{2^+}^{\#1\,\alpha\beta} - 2\,i\,k\,\sigma_{2^+}^{\#1\,\alpha\beta} == 0$	5
Total #:	16

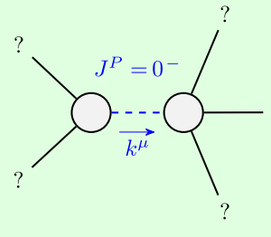
	$\sigma_{2^+}^{\#1}{}_{\alpha\beta}$	$\tau_{2^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\sigma_{2^+}^{\#1}{}^{\dagger\alpha\beta}$	$\frac{2}{(1+2k^2)^2t_1}$	$-\frac{2i\sqrt{2}\,k}{(1+2k^2)^2t_1}$	0
$\tau_{2^+}^{\#1}{}^{\dagger\alpha\beta}$	$\frac{2i\sqrt{2}\,k}{(1+2k^2)^2t_1}$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

	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^-}^{\#1}$
$\sigma_{0^+}^{\#1}{}^{\dagger}$	$\frac{1}{(1+2k^2)^2t_3}$	$-\frac{i\sqrt{2}\,k}{(1+2k^2)^2t_3}$	0	0
$\tau_{0^+}^{\#1}{}^{\dagger}$	$\frac{i\sqrt{2}\,k}{(1+2k^2)^2t_3}$	$\frac{2k^2}{(1+2k^2)^2t_3}$	0	0
$\tau_{0^+}^{\#2}{}^{\dagger}$	0	0	0	0
$\sigma_{0^-}^{\#1}{}^{\dagger}$	0	0	0	$\frac{1}{k^2r_2-t_1}$



Massive particle

Pole residue:	$\frac{6t_1t_3(t_1+t_3)-3r_5(t_1^2+2t_3^2)}{2r_5(t_1+t_3)(-3t_1t_3+r_5(t_1+t_3))} > 0$
Polarisations:	3
Square mass:	$-\frac{3t_1t_3}{2r_5t_1+2r_5t_3} > 0$
Spin:	1
Parity:	Odd



Massive particle

Pole residue:	$-\frac{1}{r_2} > 0$
Polarisations:	1
Square mass:	$\frac{t_1}{r_2} > 0$
Spin:	0
Parity:	Odd

Unitarity conditions

$r_2 < 0 \;\&\&\; r_5 < 0 \;\&\&\; t_1 < 0 \;\&\&\; 0 < t_3 < -t_1$

(No massless particles)