	$\tau_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^+}^{\#2}{}_{\alpha\beta}$	$\sigma_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^-}^{\#1}{}_{\alpha}$	$\sigma_{1^-}^{\#2}{}_{\alpha}$	$\tau_{1^-}^{\#1}{}_{\alpha}$	$\tau_{1^-}^{\#2}{}_{\alpha}$
$\sigma_{1^+}^{\#1}{}^{\dagger}{}^{\alpha\beta}$	$\frac{i\sqrt{2}\,k\,(t_1-2t_2)}{(1+k^2)\,(3t_1t_2+2k^2r_5\,(t_1+t_2))}$	$\frac{\sqrt{2}\,(t_1-2t_2)}{3t_1t_2+2k^2r_5\,(t_1+t_2)}$	$\frac{2\,(t_1+t_2)}{3t_1t_2+2k^2r_5\,(t_1+t_2)}$	0	0	0	0
$\sigma_{1^+}^{\#2}{}^{\dagger}{}^{\alpha\beta}$	$\frac{ik\,(6k^2r_5+t_1+4t_2)}{(1+k^2)^2\,(3t_1t_2+2k^2r_5\,(t_1+t_2))}$	$\frac{6k^2r_5+t_1+4t_2}{(1+k^2)^2\,(3t_1t_2+2k^2r_5\,(t_1+t_2))}$	$\frac{\sqrt{2}\,(t_1-2t_2)}{(1+k^2)\,(3t_1t_2+2k^2r_5\,(t_1+t_2))}$	$\frac{\sqrt{2}}{t_1+2k^2t_1}$	$\frac{-2k^2r_5+t_1}{(t_1+2k^2t_1)^2}$	0	$\frac{i\sqrt{2}\,k\,(2k^2r_5-t_1)}{(t_1+2k^2t_1)^2}$
$\tau_{1^+}^{\#1}{}^{\dagger}{}^{\alpha\beta}$	$\frac{k^2\,(6k^2r_5+t_1+4t_2)}{(1+k^2)^2\,(3t_1t_2+2k^2r_5\,(t_1+t_2))}$	$\frac{ik\,(6k^2r_5+t_1+4t_2)}{(1+k^2)^2\,(3t_1t_2+2k^2r_5\,(t_1+t_2))}$	$\frac{i\sqrt{2}\,k\,(t_1-2t_2)}{(1+k^2)\,(3t_1t_2+2k^2r_5\,(t_1+t_2))}$	$-\frac{2ik}{t_1+2k^2t_1}$	$\frac{i\sqrt{2}\,k\,(2k^2r_5-t_1)}{(t_1+2k^2t_1)^2}$	0	$\frac{-4k^4r_5+2k^2t_1}{(t_1+2k^2t_1)^2}$
$\sigma_{1^-}^{\#1}{}^{\dagger}{}^{\alpha}$	0	0	0	$\frac{\sqrt{2}}{t_1+2k^2t_1}$	0	0	$\frac{2ik}{t_1+2k^2t_1}$
$\sigma_{1^-}^{\#2}{}^{\dagger}{}^{\alpha}$	0	0	0	0	0	0	0
$\tau_{1^-}^{\#1}{}^{\dagger}{}^{\alpha}$	0	0	0	0	0	0	0
$\tau_{1^-}^{\#2}{}^{\dagger}{}^{\alpha}$	0	0	0	$-\frac{2ik}{t_1+2k^2t_1}$	$\frac{i\sqrt{2}\,k\,(2k^2r_5-t_1)}{(t_1+2k^2t_1)^2}$	0	$\frac{-4k^4r_5+2k^2t_1}{(t_1+2k^2t_1)^2}$

	$\omega_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^+}^{\#2}{}_{\alpha\beta}$	$f_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#1}{}_{\alpha}$	$\omega_{1^-}^{\#2}{}_{\alpha}$	$f_{1^-}^{\#1}{}_{\alpha}$	$f_{1^-}^{\#2}{}_{\alpha}$
$\omega_{1^+}^{\#1}{}^{\dagger}{}^{\alpha\beta}$	$\frac{1}{6}\,(6k^2r_5+t_1+4t_2)$	$-\frac{t_1-2t_2}{3\sqrt{2}}$	$-\frac{ik\,(t_1-2t_2)}{3\sqrt{2}}$	0	0	0	0
$\omega_{1^+}^{\#2}{}^{\dagger}{}^{\alpha\beta}$	$-\frac{t_1-2t_2}{3\sqrt{2}}$	$\frac{t_1+t_2}{3}$	$\frac{1}{3}\,ik\,(t_1+t_2)$	0	0	0	0
$f_{1^+}^{\#1}{}^{\dagger}{}^{\alpha\beta}$	$\frac{ik\,(t_1-2t_2)}{3\sqrt{2}}$	$-\frac{1}{3}\,ik\,(t_1+t_2)$	$\frac{1}{3}\,k^2\,(t_1+t_2)$	0	0	0	0
$\omega_{1^-}^{\#1}{}^{\dagger}{}^{\alpha}$	0	0	0	$k^2r_5-\frac{t_1}{2}$	$\frac{t_1}{\sqrt{2}}$	0	ikt_1
$\omega_{1^-}^{\#2}{}^{\dagger}{}^{\alpha}$	0	0	0	$\frac{t_1}{\sqrt{2}}$	0	0	0
$f_{1^-}^{\#1}{}^{\dagger}{}^{\alpha}$	0	0	0	0	0	0	0
$f_{1^-}^{\#2}{}^{\dagger}{}^{\alpha}$	0	0	0	$-ikt_1$	0	0	0

	$\omega_{0^+}^{\#1}$	$f_{0^+}^{\#1}$	$f_{0^+}^{\#2}$	$\omega_{0^-}^{\#1}$
$\omega_{0^+}^{\#1}{}^{\dagger}$	$-t_1$	$i\sqrt{2}\,kt_1$	0	0
$f_{0^+}^{\#1}{}^{\dagger}$	$-i\sqrt{2}\,kt_1$	$-2k^2t_1$	0	0
$f_{0^+}^{\#2}{}^{\dagger}$	0	0	0	0
$\omega_{0^-}^{\#1}{}^{\dagger}$	0	0	0	$k^2r_2+t_2$

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

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

	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^-}^{\#1}$
$\sigma_{0^+}^{\#1}{}^{\dagger}$	$-\frac{1}{(1+2k^2)^2t_1}$	$\frac{i\sqrt{2}\,k}{(1+2k^2)^2t_1}$	0	0
$\tau_{0^+}^{\#1}{}^{\dagger}$	$-\frac{i\sqrt{2}\,k}{(1+2k^2)^2t_1}$	$-\frac{2k^2}{(1+2k^2)^2t_1}$	0	0
$\tau_{0^+}^{\#2}{}^{\dagger}$	0	0	0	0
$\sigma_{0^-}^{\#1}{}^{\dagger}$	0	0	0	$\frac{1}{k^2r_2+t_2}$

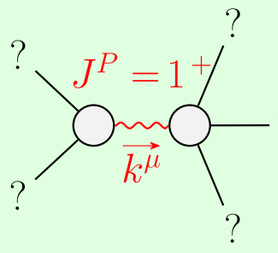
Lagrangian density

$$
\begin{aligned}
&-t_1\,\omega_{I}^{\alpha\prime}{}_{\kappa\alpha}\,\omega^{\kappa}{}_{\lambda}-\tfrac{1}{3}t_1\,\omega^{\kappa\lambda}{}_{I}\,\omega_{\kappa\lambda}{}'+\tfrac{2}{3}t_2\,\omega_{I}{}^{\kappa\lambda}\,\omega_{\kappa\lambda}{}'+\tfrac{1}{3}t_1\,\omega_{\kappa\lambda}{}'\,\omega^{\kappa\lambda}{}_{I}+\\
&\tfrac{1}{3}t_2\,\omega_{\kappa\lambda}{}'\,\omega^{\kappa\lambda}{}_{I}-r_5\,\partial_{I}\omega^{\kappa\lambda}{}_{\kappa}\,\partial'\omega_{\lambda}{}^{\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}-r_5\,\partial_{\alpha}\omega_{\lambda}{}^{\theta}\,\partial_{\theta}\omega^{\alpha}{}_{\kappa}{}^{\lambda}+\\
&r_5\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}\,\partial_{\kappa}\omega^{\theta\kappa\lambda}-r_5\,\partial_{\alpha}\omega_{\lambda}{}^{\theta}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}+2\,r_5\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}\,\partial_{\kappa}\omega^{\kappa\lambda}{}_{\alpha}+\\
&\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}+\tfrac{1}{6}t_2\,\partial^{\alpha}f_{\kappa}{}^{\lambda}\,\partial^{\kappa}f_{\alpha\lambda}+t_1\,\omega_{\kappa\lambda}{}^{\prime}\,\partial^{\kappa}f_{I}{}^{\alpha\prime}\,\partial^{\lambda}f_{\alpha}{}^{\theta}+\\
&2\,t_1\,\partial^{\alpha}f_{I}{}^{\prime}\,\partial^{\kappa}f_{\kappa\alpha}\,\partial^{\lambda}f_{\lambda}{}^{\theta}-t_1\,\partial^{\alpha}f_{I}{}^{\prime}\,\partial^{\kappa}f_{\lambda\alpha}\,\partial^{\lambda}f_{\kappa}{}^{\theta}+\tfrac{1}{3}t_1\,\omega_{I\kappa}{}^{\prime}\,\partial^{\kappa}f^{\lambda\theta}\,\partial^{\alpha}f_{\lambda\alpha}+\\
&\tfrac{1}{3}t_2\,\omega_{I\kappa}{}^{\prime}\,\partial^{\kappa}f^{\lambda\theta}\,\partial^{\alpha}f_{\lambda\alpha}+\tfrac{4}{3}t_1\,\omega_{I\kappa\theta}\,\partial^{\kappa}f^{\prime\theta}\,\partial^{\alpha}f_{\alpha}{}^{\lambda}-\tfrac{2}{3}t_2\,\omega_{I\kappa\theta}\,\partial^{\kappa}f^{\prime\theta}\,\partial^{\alpha}f_{\alpha}{}^{\lambda}+\\
&\tfrac{1}{3}t_2\,\omega_{\theta I\kappa}\,\partial^{\kappa}f^{\prime\theta}\,\partial^{\alpha}f_{\alpha}{}^{\lambda}+\tfrac{2}{3}t_1\,\omega_{\theta\kappa I}\,\partial^{\kappa}f^{\prime\theta}\,\partial^{\alpha}f_{\alpha}{}^{\lambda}+\tfrac{2}{3}t_2\,\omega_{\theta\kappa I}\,\partial^{\kappa}f^{\prime\theta}\,\partial^{\alpha}f_{\alpha}{}^{\lambda}-\\
&t_1\,\omega_{I\lambda}{}^{\kappa}\,\partial^{\lambda}f_{\kappa}{}^{\prime}+\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^{\alpha}f_{\kappa}{}^{\lambda}\,\partial^{\kappa}f_{\lambda\alpha}+\\
&\tfrac{1}{6}t_2\,\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}+\tfrac{1}{3}t_1\,\partial_{\kappa}f^{\lambda}{}_{\theta}\,\partial^{\kappa}f_{\lambda}{}^{\theta}-t_1\,\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_{I}{}^{\alpha\lambda}\,\partial_{\lambda}\omega_{\alpha\beta}{}'+\\
&\tfrac{2}{3}r_2\,\partial^{\beta}\omega_{I}{}^{\lambda\alpha}\,\partial_{\lambda}\omega_{\alpha\beta}{}'+r_5\,\partial_{\alpha}\omega_{\lambda}{}^{\theta}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}-r_5\,\partial_{\theta}\omega_{\lambda}{}^{\alpha}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\alpha\kappa}
\end{aligned}
$$

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

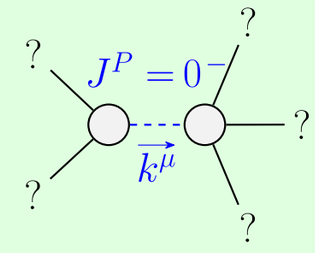
Source constraints

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
$\tau_{1^+}^{\#1\,\alpha\beta}+ik\,\sigma_{1^+}^{\#2\,\alpha\beta}==0$	3
$\tau_{2^+}^{\#1\,\alpha\beta}-2ik\,\sigma_{2^+}^{\#1\,\alpha\beta}==0$	5
Total #:	16



Massive particle

Pole residue:	$\frac{-3t_1t_2\,(t_1+t_2)+3r_5\,(t_1{}^2+2t_2{}^2)}{r_5\,(t_1+t_2)\,(-3t_1t_2+2r_5\,(t_1+t_2))}>0$
Polarisations:	3
Square mass:	$-\frac{3t_1t_2}{2r_5t_1+2r_5t_2}>0$
Spin:	1
Parity:	Even



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

$r_2<0\;\&\&\;r_5>0\;\&\&\;t_1<0\;\&\&\;t_2>-t_1$

(No massless particles)