Lagrangian density

$$
\begin{aligned}
\mathcal{L} = \; & -t_1\,\omega_i{}^{\alpha i}\,\omega_{\kappa\alpha}{}^{\kappa} - \tfrac{1}{3}t_1\,\omega_{\kappa\lambda}{}^{i}\,\omega_i{}^{\kappa\lambda} + \tfrac{2}{3}t_2\,\omega_i{}^{\kappa\lambda}\,\omega_{\kappa\lambda}{}^{i} + \tfrac{1}{3}t_1\,\omega_{\kappa\lambda}{}^{i}\,\omega'{}^{\kappa\lambda}{}_{i} + \\
& -\tfrac{1}{3}t_2\,\omega_{\kappa\lambda}{}^{i}\,\omega'{}^{\kappa\lambda}{}_{i} + 2\,r_1\,\partial_\alpha\omega_{\kappa}{}^{\lambda}{}_{\alpha}{}^{\beta}\,\partial^\beta\omega_{\theta}{}^{\theta\alpha}{}_{\kappa} + \dots \\
& \text{(remaining terms not legibly reproducible)}
\end{aligned}
$$

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

Massive particle

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

$J^P = 2^-$, $\ \vec{k}^{\mu}$

Unitarity conditions

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

(No massless particles)

$1^+ / 1^-$ sector (σ,τ)

	$\sigma_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^+}^{\#2}{}_{\alpha\beta}$	$\tau_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^-}^{\#1}{}_{\alpha}$	$\sigma_{1^-}^{\#2}{}_{\alpha}$	$\tau_{1^-}^{\#1}{}_{\alpha}$	$\tau_{1^-}^{\#2}{}_{\alpha}$
$\sigma_{1^+}^{\#1\dagger\alpha\beta}$	$\frac{2(t_1+t_2)}{3\,t_1 t_2}$	$\frac{\sqrt2\,(t_1-2t_2)}{3(1+k^2)\,t_1 t_2}$	$-\frac{i\sqrt2\,k(t_1-2t_2)}{3(1+k^2)\,t_1 t_2}$	0	0	0	0
$\sigma_{1^+}^{\#2\dagger\alpha\beta}$	$\frac{\sqrt2\,(t_1-2t_2)}{3(1+k^2)\,t_1 t_2}$	$\frac{t_1+4t_2}{3(1+k^2)^2 t_1 t_2}$	$-\frac{ik(t_1+4t_2)}{3(1+k^2)^2 t_1 t_2}$	0	0	0	0
$\tau_{1^+}^{\#1\dagger\alpha\beta}$	$\frac{i\sqrt2\,k(t_1-2t_2)}{3(1+k^2)\,t_1 t_2}$	$\frac{ik(t_1+4t_2)}{3(1+k^2)^2 t_1 t_2}$	$\frac{k^2(t_1+4t_2)}{3(1+k^2)^2 t_1 t_2}$	0	0	0	0
$\sigma_{1^-}^{\#1\dagger\alpha}$	0	0	0	0	$\frac{\sqrt2}{t_1+2k^2 t_1}$	0	$-\frac{2ik}{t_1+2k^2 t_1}$
$\sigma_{1^-}^{\#2\dagger\alpha}$	0	0	0	$\frac{\sqrt2}{t_1+2k^2 t_1}$	$\frac{2k^2 r_1+t_1}{(t_1+2k^2 t_1)^2}$	0	$-\frac{i\sqrt2\,k(2k^2 r_1+t_1)}{(t_1+2k^2 t_1)^2}$
$\tau_{1^-}^{\#1\dagger\alpha}$	0	0	0	0	0	0	0
$\tau_{1^-}^{\#2\dagger\alpha}$	0	0	0	$\frac{2ik}{t_1+2k^2 t_1}$	$\frac{i\sqrt2\,k(2k^2 r_1+t_1)}{(t_1+2k^2 t_1)^2}$	0	$\frac{2k^2(2k^2 r_1+t_1)}{(t_1+2k^2 t_1)^2}$

$1^+ / 1^-$ sector (ω,f)

	$\omega_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^+}^{\#2}{}_{\alpha\beta}$	$f_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#1}{}_{\alpha}$	$\omega_{1^-}^{\#2}{}_{\alpha}$	$f_{1^-}^{\#1}{}_{\alpha}$	$f_{1^-}^{\#2}{}_{\alpha}$
$\omega_{1^+}^{\#1\dagger\alpha\beta}$	$\frac{1}{6}(t_1+4t_2)$	$-\frac{t_1-2t_2}{3\sqrt2}$	$\frac{ik(t_1-2t_2)}{3\sqrt2}$	0	0	0	0
$\omega_{1^+}^{\#2\dagger\alpha\beta}$	$-\frac{t_1-2t_2}{3\sqrt2}$	$\frac{t_1+t_2}{3}$	$-\frac{1}{3}ik(t_1+t_2)$	0	0	0	0
$f_{1^+}^{\#1\dagger\alpha\beta}$	$-\frac{ik(t_1-2t_2)}{3\sqrt2}$	$\frac{1}{3}ik(t_1+t_2)$	$\frac{1}{3}k^2(t_1+t_2)$	0	0	0	0
$\omega_{1^-}^{\#1\dagger\alpha}$	0	0	0	$-k^2 r_1 - \frac{t_1}{2}$	$\frac{t_1}{\sqrt2}$	0	$-ikt_1$
$\omega_{1^-}^{\#2\dagger\alpha}$	0	0	0	$\frac{t_1}{\sqrt2}$	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

$2^+ / 2^-$ sector

	$\omega_{2^+}^{\#1}{}_{\alpha\beta}$	$f_{2^+}^{\#1}{}_{\alpha\beta}$	$\omega_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\omega_{2^+}^{\#1\dagger\alpha\beta}$	$\frac{t_1}{2}$	$-\frac{ikt_1}{\sqrt2}$	0
$f_{2^+}^{\#1\dagger\alpha\beta}$	$\frac{ikt_1}{\sqrt2}$	$k^2 t_1$	0
$\omega_{2^-}^{\#1\dagger\alpha\beta\chi}$	0	0	$k^2 r_1 + \frac{t_1}{2}$

	$\sigma_{2^+}^{\#1}{}_{\alpha\beta}$	$\tau_{2^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\sigma_{2^-}^{\#1\dagger\alpha\beta\chi}$	0	0	$\frac{2}{2k^2 r_1 + t_1}$
$\tau_{2^+}^{\#1\dagger\alpha\beta}$	$-\frac{2i\sqrt2\,k}{(1+2k^2)^2 t_1}$	$\frac{4k^2}{(1+2k^2)^2 t_1}$	0
$\sigma_{2^+}^{\#1\dagger\alpha\beta}$	$\frac{2}{(1+2k^2)^2 t_1}$	$\frac{2i\sqrt2\,k}{(1+2k^2)^2 t_1}$	0

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

$0^+ / 0^-$ sector (σ,τ)

	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^-}^{\#1}$
$\sigma_{0^+}^{\#1\dagger}$	$-\frac{1}{(1+2k^2)^2 t_1}$	$\frac{i\sqrt2\,k}{(1+2k^2)^2 t_1}$	0	0
$\tau_{0^+}^{\#1\dagger}$	$-\frac{i\sqrt2\,k}{(1+2k^2)^2 t_1}$	$-\frac{2k^2}{(1+2k^2)^2 t_1}$	0	0
$\tau_{0^+}^{\#2\dagger}$	0	0	0	0
$\sigma_{0^-}^{\#1\dagger}$	0	0	0	$\frac{1}{t_2}$

$0^+ / 0^-$ sector (ω,f)

	$f_{0^+}^{\#1}$	$f_{0^+}^{\#2}$	$\omega_{0^+}^{\#1}$	$\omega_0^{\#1}$
$\omega_{0^+}^{\#1\dagger}$	$-t_1$	$i\sqrt2\,k t_1$	0	0
$f_{0^+}^{\#1\dagger}$	$-i\sqrt2\,k t_1$	$-2k^2 t_1$	0	0
$f_{0^+}^{\#2\dagger}$	0	0	0	0
$\omega_{0^-}^{\#1\dagger}$	0	0	0	t_2