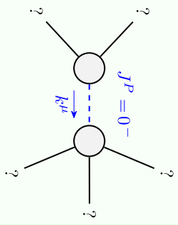
$r_2 < 0 \;\&\&\; t_2 > 0$



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

(No massless particles)

	$\sigma_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^+}^{\#2}{}_{\alpha\beta}$	$\tau_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^-}^{\#1}{}_{\alpha}$	$\sigma_{1^-}^{\#2}{}_{\alpha}$	$\tau_{1^-}^{\#1}{}_{\alpha}$	$\tau_{1^-}^{\#2}{}_{\alpha}$
$\sigma_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	$\frac{2}{3k^2r_3}$	$-\frac{2\sqrt{2}}{3k^2r_3+3k^4r_3}$	$-\frac{2i\sqrt{2}}{3kr_3+3k^3r_3}$	0	0	0	0
$\sigma_{1^+}^{\#2}{}^{\dagger\alpha\beta}$	$-\frac{2\sqrt{2}}{3k^2r_3+3k^4r_3}$	$\frac{9k^2r_3+4t_2}{3(k+k^3)^2r_3t_2}$	$\frac{i(9k^2r_3+4t_2)}{3k(1+k^2)^2r_3t_2}$	0	0	0	0
$\tau_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	$\frac{2i\sqrt{2}}{3kr_3+3k^3r_3}$	$-\frac{i(9k^2r_3+4t_2)}{3k(1+k^2)^2r_3t_2}$	$\frac{9k^2r_3+4t_2}{3(1+k^2)^2r_3t_2}$	0	0	0	0
$\sigma_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0	$\frac{6}{(3+2k^2)^2t_3}$	$-\frac{3\sqrt{2}}{(3+2k^2)^2t_3}$	0	$-\frac{6ik}{(3+2k^2)^2t_3}$
$\sigma_{1^-}^{\#2}{}^{\dagger\alpha}$	0	0	0	$-\frac{3\sqrt{2}}{(3+2k^2)^2t_3}$	$\frac{3}{(3+2k^2)^2t_3}$	0	$\frac{3i\sqrt{2}k}{(3+2k^2)^2t_3}$
$\tau_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0	0	0	0	0
$\tau_{1^-}^{\#2}{}^{\dagger\alpha}$	0	0	0	$\frac{6ik}{(3+2k^2)^2t_3}$	$-\frac{3i\sqrt{2}k}{(3+2k^2)^2t_3}$	0	$\frac{6k^2}{(3+2k^2)^2t_3}$

Lagrangian density

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

	$\omega_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^+}^{\#2}{}_{\alpha\beta}$	$f_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#1}{}_{\alpha}$	$\omega_{1^-}^{\#2}{}_{\alpha}$	$f_{1^-}^{\#1}{}_{\alpha}$	$f_{1^-}^{\#2}{}_{\alpha}$
$\omega_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	$\frac{1}{6}(9k^2r_3+4t_2)$	$\frac{\sqrt{2}t_2}{3}$	$\frac{1}{3}i\sqrt{2}\,kt_2$	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
$f_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	$-\frac{1}{3}i\sqrt{2}\,kt_2$	$-\frac{1}{3}ikt_2$	$\frac{k^2t_2}{3}$	0	0	0	0
$\omega_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0	$\frac{2t_3}{3}$	$-\frac{\sqrt{2}t_3}{3}$	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	$\frac{1}{3}i\sqrt{2}\,kt_3$
$f_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0	0	0	0	0
$f_{1^-}^{\#2}{}^{\dagger\alpha}$	0	0	0	$\frac{2ikt_3}{3}$	$-\frac{1}{3}i\sqrt{2}\,kt_3$	0	$\frac{2k^2t_3}{3}$

Source constraints

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

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

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

	$\omega_{0^+}^{\#1}$	$f_{0^+}^{\#1}$	$f_{0^+}^{\#2}$	$\omega_{0^-}^{\#1}$
$\omega_{0^+}^{\#1}{}^{\dagger}$	t_3	$-i\sqrt{2}\,kt_3$	0	0
$f_{0^+}^{\#1}{}^{\dagger}$	$i\sqrt{2}\,kt_3$	$2k^2t_3$	0	0
$f_{0^+}^{\#2}{}^{\dagger}$	0	0	0	0
$\omega_{0^-}^{\#1}{}^{\dagger}$	0	0	0	$k^2r_2+t_2$

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