Large spin-1 inverse table (left)

	$\sigma^{\#1}_{1^+}{}^{\dagger\alpha\beta}$	$\sigma^{\#2}_{1^+}{}^{\dagger\alpha\beta}$	$\tau^{\#1}_{1^+}{}^{\dagger\alpha\beta}$	$\sigma^{\#1}_{1^-}{}^{\dagger\alpha}$	$\sigma^{\#2}_{1^-}{}^{\dagger\alpha}$	$\tau^{\#1}_{1^-}{}^{\dagger\alpha}$	$\tau^{\#2}_{1^-}{}^{\dagger\alpha}$
$\tau^{\#2}_{1^-\alpha}$	0	0	0	$\frac{4i}{k(1+2k^2)(r_3+2r_5)}$	$\frac{i\sqrt{2}\,(3k^2(r_3+2r_5)+4t_3)}{k(1+2k^2)^2(r_3+2r_5)t_3}$	0	$\frac{6k^2(r_3+2r_5)+8t_3}{(1+2k^2)^2(r_3+2r_5)t_3}$
$\tau^{\#1}_{1^-\alpha}$	0	0	0	0	0	0	0
$\sigma^{\#2}_{1^-\alpha}$	0	0	0	$\frac{2\sqrt{2}}{k^2(1+2k^2)(r_3+2r_5)}$	$\frac{3k^2(r_3+2r_5)+4t_3}{(k+2k^3)^2(r_3+2r_5)t_3}$	0	$-\frac{i\sqrt{2}\,(3k^2(r_3+2r_5)+4t_3)}{k(1+2k^2)^2(r_3+2r_5)t_3}$
$\sigma^{\#1}_{1^-\alpha}$	0	0	0	$\frac{2}{k^2(r_3+2r_5)}$	$\frac{2\sqrt{2}}{k^2(1+2k^2)(r_3+2r_5)}$	0	$-\frac{4i}{k(1+2k^2)(r_3+2r_5)}$
$\tau^{\#1}_{1^+\alpha\beta}$	$-\frac{i\sqrt{2}}{k(1+k^2)(2r_3+r_5)}$	$\frac{i(3k^2(2r_3+r_5)+2t_2)}{k(1+k^2)^2(2r_3+r_5)t_2}$	$\frac{3k^2(2r_3+r_5)+2t_2}{(1+k^2)^2(2r_3+r_5)t_2}$	0	0	0	0
$\sigma^{\#2}_{1^+\alpha\beta}$	$-\frac{\sqrt{2}}{k^2(1+k^2)(2r_3+r_5)}$	$\frac{3k^2(2r_3+r_5)+2t_2}{(k+k^3)^2(2r_3+r_5)t_2}$	$-\frac{i(3k^2(2r_3+r_5)+2t_2)}{k(1+k^2)^2(2r_3+r_5)t_2}$	0	0	0	0
$\sigma^{\#1}_{1^+\alpha\beta}$	$\frac{1}{k^2(2r_3+r_5)}$	$-\frac{\sqrt{2}}{k^2(1+k^2)(2r_3+r_5)}$	$\frac{i\sqrt{2}}{k(1+k^2)(2r_3+r_5)}$	0	0	0	0

Spin-1 table (top centre)

	$\omega^{\#1}_{1^+\alpha\beta}$	$\omega^{\#2}_{1^+\alpha\beta}$	$f^{\#1}_{1^+\alpha\beta}$	$\omega^{\#1}_{1^-\alpha}$	$\omega^{\#2}_{1^-\alpha}$	$f^{\#1}_{1^-\alpha}$	$f^{\#2}_{1^-\alpha}$
$\omega^{\#1}_{1^+}{}^{\dagger\alpha\beta}$	$k^2(2r_3+r_5)+\frac{2t_2}{3}$	$\frac{\sqrt{2}\,t_2}{3}$	$\frac{1}{3}i\sqrt{2}\,kt_2$	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
$f^{\#1}_{1^+}{}^{\dagger\alpha\beta}$	$-\frac{1}{3}i\sqrt{2}\,kt_2$	$-\frac{1}{3}ikt_2$	$\frac{k^2 t_2}{3}$	0	0	0	0
$\omega^{\#1}_{1^-}{}^{\dagger\alpha}$	0	0	0	$k^2\left(\frac{r_3}{2}+r_5\right)+\frac{2t_3}{3}$	$-\frac{\sqrt{2}\,t_3}{3}$	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	$\frac{1}{3}i\sqrt{2}\,kt_3$
$f^{\#1}_{1^-}{}^{\dagger\alpha}$	0	0	0	0	0	0	0
$f^{\#2}_{1^-}{}^{\dagger\alpha}$	0	0	0	$\frac{2ikt_3}{3}$	$-\frac{1}{3}i\sqrt{2}\,kt_3$	0	$\frac{2k^2 t_3}{3}$

Spin-2 table (top right)

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

Spin-2 table (right)

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

Spin-0 table (centre)

	$\omega^{\#1}_{0^+}$	$f^{\#1}_{0^+}$	$f^{\#2}_{0^+}$	$\omega^{\#1}_{0^-}$
$\omega^{\#1}_{0^+}{}^\dagger$	t_3	$-i\sqrt{2}\,kt_3$	0	0
$f^{\#1}_{0^+}{}^\dagger$	$i\sqrt{2}\,kt_3$	$2k^2 t_3$	0	0
$f^{\#2}_{0^+}{}^\dagger$	0	0	0	0
$\omega^{\#1}_{0^-}{}^\dagger$	0	0	0	t_2

Spin-0 inverse table

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

Lagrangian density

$$\mathcal{L} = \tfrac{2}{3}t_3\,\omega_i{}^{\alpha i}\,\omega_{\kappa\alpha}{}^\kappa + \tfrac{2}{3}t_2\,\omega_i{}^{\kappa\lambda}\,\omega_{\kappa\lambda}{}^i + \tfrac{1}{3}t_2\,\omega_{\kappa\lambda}{}^i\,\omega^{\kappa\lambda}{}_i - \tfrac{1}{2}r_3\,\partial_i\omega^{\kappa\lambda}{}_\alpha\,\partial^i\omega_\lambda{}^\alpha{}_\kappa - r_5\,\partial_i\omega^{\theta\kappa\lambda}\,\partial_\kappa\omega_\lambda{}^\alpha{}_\alpha + \dots$$

(dense rotated expression — terms in $r_3,\,r_5,\,t_2,\,t_3$ coupling ω and f fields)

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

Source constraints

SO(3) irreps	#
$\tau^{\#2}_{0^+}==0$	1
$\tau^{\#1}_{0^+}-2ik\,\sigma^{\#1}_{0^+}==0$	1
$\tau^{\#2}_{1^-}{}^\alpha+2ik\,\sigma^{\#2}_{1^-}{}^\alpha==0$	3
$\tau^{\#1}_{1^-}{}^\alpha==0$	3
$\tau^{\#1}_{1^+}{}^{\alpha\beta}+ik\,\sigma^{\#2}_{1^+}{}^{\alpha\beta}==0$	3
$\sigma^{\#1}_{2^-}{}^{\alpha\beta\chi}==0$	5
$\tau^{\#1}_{2^+}{}^{\alpha\beta}==0$	5
Total #:	21

Quadratic pole

Pole residue: $-\dfrac{1}{r_3(2r_3+r_5)(r_3+2r_5)p^2}>0$

Polarisations: 2

Unitarity conditions

$$r_3<0\;\&\&\;\left(r_5<-\tfrac{r_3}{2}\,||\,r_5>-2r_3\right)\,||\,r_3>0\;\&\&\;-2r_3<r_5<-\tfrac{r_3}{2}$$

(No massive particles)