

	$\omega_{1^+ \alpha \beta}^{\#1}$	$\omega_{1^+ \alpha \beta}^{\#2}$	$f_{1^+ \alpha \beta}^{\#1}$	$\omega_{1^- \alpha}^{\#1}$	$\omega_{1^- \alpha}^{\#2}$	$f_{1^- \alpha}^{\#1}$	$f_{1^- \alpha}^{\#2}$
$\omega_{1^+}^{\#1} \dagger^{\alpha \beta}$	$k^2(2r_3+r_5)+\frac{2t_2}{3}$	$\frac{\sqrt{2}t_2}{3}$	$\frac{1}{3}i\sqrt{2}kt_2$	0	0	0	0
$\omega_{1^+}^{\#2} \dagger^{\alpha \beta}$	$\frac{\sqrt{2}t_2}{3}$	$\frac{t_2}{3}$	$\frac{ikt_2}{3}$	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	$\frac{1}{2}k^2(r_3+2r_5)$	0	0	0
$\omega_{1^-}^{\#2} \dagger^\alpha$	0	0	0	0	0	0	0
$f_{1^-}^{\#1} \dagger^\alpha$	0	0	0	0	0	0	0
$f_{1^-}^{\#2} \dagger^\alpha$	0	0	0	0	0	0	0

Source constraints	SO(3) irreps	#
$\sigma_{0^+}^{\#1} == 0$		1
$\tau_{0^+}^{\#1} == 0$		1
$\tau_{0^+}^{\#2} == 0$		1
$\tau_{1^-}^{\#2 \alpha} == 0$		3
$\tau_{1^-}^{\#1 \alpha} == 0$		3
$\sigma_{1^-}^{\#2 \alpha} == 0$		3
$\tau_{1^+}^{\#1 \alpha \beta} + i k \sigma_{1^+}^{\#2 \alpha \beta} == 0$		3
$\sigma_{2^-}^{\#1 \alpha \beta \chi} == 0$		5
$\tau_{2^+}^{\#1 \alpha \beta} == 0$		5
Total #:		25

	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^-}^{\#1}$
$\sigma_{0^+}^{\#1} \dagger$	0	0	0	0
$\tau_{0^+}^{\#1} \dagger$	0	0	0	0
$\tau_{0^+}^{\#2} \dagger$	0	0	0	0
$\sigma_{0^-}^{\#1} \dagger$	0	0	0	$\frac{1}{t_2}$

	$\omega_{0^+}^{\#1}$	$f_{0^+}^{\#1}$	$f_{0^+}^{\#2}$	$\omega_{0^-}^{\#1}$
$\omega_{0^+}^{\#1} \dagger$	0	0	0	0
$f_{0^+}^{\#1} \dagger$	0	0	0	0
$f_{0^+}^{\#2} \dagger$	0	0	0	0
$\omega_{0^-}^{\#1} \dagger$	0	0	0	t_2

Lagrangian density

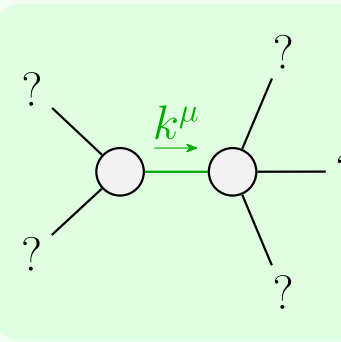
$$\begin{aligned} &\frac{2}{3}t_2\omega_{,\kappa\lambda}\omega_{\kappa\lambda}'+\frac{1}{3}t_2\omega_{\kappa\lambda}'\omega_{,\kappa\lambda}-\frac{1}{2}r_3\partial_\mu\omega_{\kappa\lambda}'\partial^\mu\omega_{\lambda\alpha}^\alpha-r_5\partial_\mu\omega_{\kappa\lambda}'\partial^\mu\omega_{\lambda\alpha}^\alpha+ \\ &\frac{1}{2}r_3\partial_\alpha\omega_{\lambda\theta}\partial_\kappa\omega^{\theta\kappa\lambda}-r_5\partial_\alpha\omega_{\lambda\theta}\partial_\kappa\omega^{\theta\kappa\lambda}-\frac{1}{2}r_3\partial_\theta\omega_{\lambda\alpha}\partial_\kappa\omega^{\kappa\lambda\theta}-r_5\partial_\alpha\omega_{\lambda\theta}\partial_\kappa\omega^{\kappa\lambda\theta}+ \\ &r_5\partial_\alpha\omega_{\lambda\alpha}\partial_\kappa\omega^{\theta\kappa\lambda}-\frac{1}{2}r_3\partial_\alpha\omega_{\lambda\theta}\partial_\kappa\omega^{\kappa\lambda\theta}-r_5\partial_\alpha\omega_{\lambda\alpha}\partial_\kappa\omega^{\kappa\lambda\theta}+ \\ &r_3\partial_\theta\omega_{\lambda\alpha}\partial_\kappa\omega^{\kappa\lambda\theta}+2r_5\partial_\theta\omega_{\lambda\alpha}\partial_\kappa\omega^{\kappa\lambda\theta}+\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}{3}t_2\partial^\alpha f_{\lambda\theta}\partial^\kappa f_{\alpha\kappa}^\theta-\frac{2}{3}t_2\omega_{\kappa\theta}\partial^\kappa f_{\lambda\theta}^\theta- \\ &\frac{1}{3}t_2\omega_{\theta\kappa}\partial^\kappa f_{\lambda\theta}^\theta+\frac{2}{3}t_2\omega_{\theta\kappa\lambda}\partial^\kappa f_{\lambda\theta}^\theta-\frac{1}{6}t_2\partial^\alpha f_{\lambda\kappa}\partial^\kappa f_{\alpha}^\theta-\frac{1}{6}t_2\partial_\kappa f_{\lambda\theta}^\theta\partial^\kappa f_{\lambda}^\theta+ \\ &\frac{1}{6}t_2\partial_\kappa f_{\lambda\theta}^\theta\partial^\kappa f_{\lambda}^\theta-4r_3\partial^\beta\omega_{\lambda\theta}\partial_\lambda\omega_{\alpha\beta}^\alpha-\frac{1}{2}r_3\partial_\alpha\omega_{\lambda\theta}\partial^\lambda\omega^{\theta\kappa}_\kappa+\frac{1}{2}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}_\kappa \end{aligned}$$

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

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

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

	$\sigma_{1^+ \alpha \beta}^{\#1}$	$\sigma_{1^+ \alpha \beta}^{\#2}$	$\tau_{1^+ \alpha \beta}^{\#1}$	$\sigma_{1^- \alpha}^{\#1}$	$\sigma_{1^- \alpha}^{\#2}$	$\tau_{1^- \alpha}^{\#1}$	$\tau_{1^- \alpha}^{\#2}$
$\sigma_{1^+}^{\#1} \dagger^{\alpha \beta}$	$\frac{1}{k^2(2r_3+r_5)}$	$-\frac{\sqrt{2}}{k^2(1+k^2)(2r_3+r_5)}$	$-\frac{i\sqrt{2}}{k(1+k^2)(2r_3+r_5)}$	0	0	0	0
$\sigma_{1^+}^{\#2} \dagger^{\alpha \beta}$	$-\frac{\sqrt{2}}{k^2(1+k^2)(2r_3+r_5)}$	$\frac{3k^2(2r_3+r_5)+2t_2}{(k+k^3)^2(2r_3+r_5)t_2}$	$\frac{i(3k^2(2r_3+r_5)+2t_2)}{k(1+k^2)^2(2r_3+r_5)t_2}$	0	0	0	0
$\tau_{1^+}^{\#1} \dagger^{\alpha \beta}$	$\frac{i\sqrt{2}}{k(1+k^2)(2r_3+r_5)}$	$-\frac{i(3k^2(2r_3+r_5)+2t_2)}{k(1+k^2)^2(2r_3+r_5)t_2}$	$\frac{3k^2(2r_3+r_5)+2t_2}{(1+k^2)^2(2r_3+r_5)t_2}$	0	0	0	0
$\sigma_{1^-}^{\#1} \dagger^\alpha$	0	0	0	$\frac{k^2(r_3+2r_5)}{2}$	0	0	0
$\sigma_{1^-}^{\#2} \dagger^\alpha$	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	0	0	0	0



Quadratic pole	
Pole residue:	$-\frac{1}{r_3(2r_3+r_5)(r_3+2r_5)p^2} > 0$
Polarisations:	2

Unitarity conditions

$$r_3 < 0 \&\& (r_5 < -\frac{r_3}{2} \parallel r_5 > -2r_3) \parallel r_3 > 0 \&\& -2r_3 < r_5 < -\frac{r_3}{2}$$

(No massive particles)