Lagrangian density

$$\frac{2}{3} t_3 \, \omega_i{}^{\alpha i} \, \omega_{\kappa\alpha}{}^{\kappa} - \frac{1}{2} r_3 \, \partial_i \omega_\lambda{}^{\kappa\lambda} \, \partial^l \omega_\kappa{}^{\alpha}{}_\alpha - r_5 \, \partial_i \omega_\lambda{}^{\alpha}{}_\alpha +$$
$$\frac{2}{3} r_2 \, \partial^\beta \omega_{\theta\beta}{}^{\theta\alpha} \, \partial_\kappa \omega_{\alpha\beta}{}^{\kappa} - \frac{1}{3} r_2 \, \partial_\theta \omega_{\alpha\beta}{}^{\kappa} \, \partial_\kappa \omega^{\theta\alpha\beta} +$$
$$\frac{1}{2} r_3 \, \partial_\alpha \omega_\lambda{}^{\alpha}{}_\theta \, \partial_\kappa \omega^{\theta\kappa\lambda} - r_5 \, \partial_\alpha \omega_\lambda{}^{\alpha}{}_\theta \, \partial_\kappa \omega^{\theta\kappa\lambda} - \frac{1}{2} r_3 \, \partial_\theta \omega_\lambda{}^{\alpha}{}_\alpha \, \partial_\kappa \omega^{\theta\kappa\lambda} +$$
$$r_5 \, \partial_\theta \omega_\lambda{}^{\alpha}{}_\alpha \, \partial_\kappa \omega^{\theta\kappa\lambda} - \frac{1}{2} r_3 \, \partial_\alpha \omega_\lambda{}^{\theta\alpha} \, \partial_\theta \omega_\kappa{}^{\alpha}{}_\alpha \partial_\kappa \omega^{\theta\kappa\lambda} +$$
$$r_3 \, \partial_\theta \omega_\lambda{}^{\alpha}{}_\alpha \, \partial_\kappa \omega^{\kappa\lambda\theta} + 2 r_5 \, \partial_\theta \omega_\lambda{}^{\alpha}{}_\alpha \, \partial_\kappa \omega^{\kappa\lambda\theta} - \frac{2}{3} t_3 \, \omega_{\kappa\alpha}{}^{\alpha} \partial_\kappa f^l{}_i -$$
$$\frac{2}{3} t_3 \, \omega_\lambda{}^{\lambda} \partial^\kappa f^l{}_i - \frac{4}{3} t_3 \, \partial^\alpha f_{\kappa\alpha}{}^{\kappa} \partial^\kappa f^l{}_i + \frac{2}{3} t_3 \, \partial_\kappa f^l{}_i{}^\kappa +$$
$$\frac{2}{3} t_3 \, \omega_{i\alpha}{}^{\alpha} \partial^\kappa f^l{}_\kappa + \frac{2}{3} t_3 \, \omega_\lambda{}^{\lambda} \partial^\kappa f^l{}_\kappa + \frac{2}{3} t_3 \, \partial^\alpha f^\lambda{}_\alpha \partial^\kappa f_{\lambda\kappa} +$$
$$\frac{1}{3} r_2 \, \partial_\kappa \omega^{\alpha\beta\theta} \partial^\kappa \omega_{\alpha\beta\theta} + \frac{2}{3} r_2 \, \partial_\kappa \omega_{\alpha\beta\theta} \partial^\kappa \omega^{\alpha\beta\theta} - \frac{2}{3} r_2 \, \partial^\lambda \omega_i{}^{\alpha}{}_\alpha \partial_\lambda \omega_{\alpha\beta}{}^{\alpha} +$$
$$\frac{2}{3} r_2 \, \partial_i \omega_\lambda{}^{\lambda\alpha} \partial_\alpha \omega_i{}^{\alpha}{}_\alpha - 4 r_3 \, \partial^\beta \omega_\lambda{}^{\lambda\alpha} \partial_\lambda \omega_i{}^{\alpha}{}_\alpha - \frac{1}{2} r_3 \, \partial_\alpha \omega_\lambda{}^{\alpha}{}_\theta \partial^\lambda \omega^{\theta\kappa} +$$
$$r_5 \, \partial_\alpha \omega_\lambda{}^{\alpha}{}_\theta \, \partial^\lambda \omega^{\theta\kappa} + \frac{1}{2} r_3 \, \partial_\theta \omega_\lambda{}^{\alpha}{}_\alpha \, \partial^\lambda \omega^{\theta\kappa}{}_\kappa - r_5 \, \partial_\theta \omega_\lambda{}^{\alpha}{}_\alpha \, \partial^\lambda \omega^{\theta\kappa}{}_\kappa$$

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
$\tau_{0^+}^{\#1} - 2 i k \, \sigma_{0^+}^{\#1} == 0$	1
$\tau_{1^-}^{\#2\alpha} + 2 i k \, \sigma_{1^-}^{\#2\alpha} == 0$	3
$\tau_{1^-}^{\#1\alpha} == 0$	3
$\tau_{1^+}^{\#1\alpha} == 0$	3
$\sigma_{1^+}^{\#2\alpha\beta} == 0$	3
$\sigma_{2^-}^{\#1\alpha\beta\chi} == 0$	5
$\tau_{2^+}^{\#1\alpha\beta} == 0$	5
Total #:	24

First wide matrix (top right)

	$\omega_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#2}{}_{\alpha\beta}$	$f_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#1}{}_{\alpha}$	$\omega_{1^-}^{\#2}{}_{\alpha}$	$f_{1^-}^{\#1}{}_{\alpha}$	$f_{1^-}^{\#2}{}_{\alpha}$
$\omega_{1^+}^{\#1}\dagger^{\alpha\beta}$	$k^2(2 r_3 + r_5)$	0	0	0	0	0	0
$\omega_{1^+}^{\#2}\dagger^{\alpha\beta}$	0	0	0	0	0	0	0
$f_{1^+}^{\#1}\dagger^{\alpha\beta}$	0	0	0	0	0	0	0
$\omega_{1^-}^{\#1}\dagger^{\alpha}$	0	0	0	$k^2(\frac{r_3}{2}+r_5)+\frac{2 t_3}{3}$	$-\frac{\sqrt{2} t_3}{3}$	$\frac{2 i k t_3}{3}$	0
$\omega_{1^-}^{\#2}\dagger^{\alpha}$	0	0	0	$-\frac{\sqrt{2} t_3}{3}$	$\frac{t_3}{3}$	$-\frac{1}{3} i \sqrt{2} k t_3$	0
$f_{1^-}^{\#1}\dagger^{\alpha}$	0	0	0	$-\frac{2}{3} i \sqrt{2} k t_3$	$\frac{1}{3} i \sqrt{2} k t_3$	$\frac{2 k^2 t_3}{3}$	0
$f_{1^-}^{\#2}\dagger^{\alpha}$	0	0	0	0	0	0	0

ω_2 / f_2 matrix

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

σ_2 / τ_2 matrix

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

Left large matrix

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

σ_{0^+} / τ_{0^+} matrix

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

ω_{0^+} / f_{0^+} matrix

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

(No massive particles)

Unitarity conditions

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

Quadratic pole

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