

$\omega_0^{\#1}$	0
$\omega_0^{\#1} + \omega_{0+}^{\#1} + \omega_{0-}^{\#1}$	0
$\omega_{0+}^{\#1} + \omega_{0-}^{\#1}$	$6k^2(-r_1 + r_3)$

$\sigma_0^{\#1} + \sigma_0^{+1} + \sigma_0^{-1}$	0
$\sigma_0^{+1} + \sigma_0^{-1}$	$\frac{1}{6k^2(-r_1 + r_3)}$
σ_0^{+1}	0
σ_0^{-1}	0

$\omega_2^{\#1} + \alpha\beta$	0
$\omega_2^{\#1} + \alpha\beta\chi$	$k^2 r_1$
$\omega_2^{\#1} + \alpha\beta$	0
$\omega_2^{\#1} + \alpha\beta\chi$	$k^2 r_1$

$\sigma_1^{\#1} + \alpha\beta$	$\frac{1}{k^2(2r_3 + r_5)}$	0	0	0
$\sigma_1^{\#2} + \alpha\beta$	0	0	0	0
$\sigma_1^{\#1} + \alpha$	0	0	$\frac{1}{k^2(-r_1 + 2r_3 + r_5)}$	0
$\sigma_1^{\#2} + \alpha$	0	0	0	0

$\sigma_2^{\#1} + \alpha\beta$	0
$\sigma_2^{\#1} + \alpha\beta\chi$	$\frac{1}{k^2 r_1}$
$\sigma_2^{\#1} + \alpha\beta$	0
$\sigma_2^{\#1} + \alpha\beta\chi$	$\frac{1}{k^2 r_1}$

$\omega_1^{\#1} + \alpha\beta$	$k^2(2r_3 + r_5)$	0	0	0
$\omega_1^{\#2} + \alpha\beta$	0	0	0	0
$\omega_1^{\#1} + \alpha$	0	0	$k^2(-r_1 + 2r_3 + r_5)$	0
$\omega_1^{\#2} + \alpha$	0	0	0	0

Source constraints	SO(3) irreps	#
$\sigma_0^{\#1} == 0$	$\sigma_0^{\#1}$	1
$\sigma_1^{\#2} == 0$	$\sigma_1^{\#2}$	3
$\sigma_1^{\#2} == 0$	$\sigma_1^{\#2}$	3
$\sigma_2^{\#1} == 0$	$\sigma_2^{\#1}$	5
Total #:		12

Lagrangian density

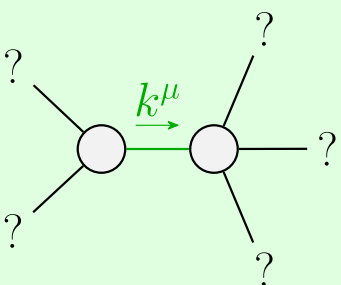
$$\begin{aligned}
& 2r_1 \partial_\mu \omega^{\kappa\lambda}_\kappa \partial^\mu \omega_\lambda^\alpha - 2r_3 \partial_\mu \omega^{\kappa\lambda}_\kappa \partial^\mu \omega_\lambda^\alpha - \\
& r_5 \partial_\mu \omega^{\kappa\lambda}_\kappa \partial^\mu \omega_\lambda^\alpha - \frac{2}{3} r_1 \partial^\beta \omega^{\theta\alpha}_\kappa \partial_\theta \omega_{\alpha\beta}^\kappa - \frac{2}{3} r_1 \partial_\theta \omega^{\kappa\lambda}_\alpha \partial_\kappa \omega^{\alpha\beta\theta} + \\
& \frac{2}{3} r_1 \partial_\theta \omega^{\kappa\lambda}_\alpha \partial_\kappa \omega^{\theta\alpha\beta} - 2r_1 \partial_\alpha \omega_\lambda^\alpha \partial_\theta \partial_\kappa \omega^{\theta\kappa\lambda} + 2r_3 \partial_\alpha \omega_\lambda^\alpha \partial_\theta \partial_\kappa \omega^{\theta\kappa\lambda} - \\
& r_5 \partial_\alpha \omega_\lambda^\alpha \partial_\theta \partial_\kappa \omega^{\theta\kappa\lambda} + 2r_1 \partial_\theta \omega_\lambda^\alpha \partial_\kappa \omega^{\theta\kappa\lambda} - 2r_3 \partial_\theta \omega_\lambda^\alpha \partial_\kappa \omega^{\theta\kappa\lambda} + \\
& r_5 \partial_\theta \omega_\lambda^\alpha \partial_\kappa \omega^{\theta\kappa\lambda} + 2r_1 \partial_\alpha \omega_\lambda^\alpha \partial_\theta \partial_\kappa \omega^{\kappa\lambda\theta} - 2r_3 \partial_\alpha \omega_\lambda^\alpha \partial_\theta \partial_\kappa \omega^{\kappa\lambda\theta} - \\
& r_5 \partial_\alpha \omega_\lambda^\alpha \partial_\theta \partial_\kappa \omega^{\kappa\lambda\theta} - 4r_1 \partial_\theta \omega_\lambda^\alpha \partial_\kappa \omega^{\kappa\lambda\theta} + 4r_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{2}{3} r_1 \partial_\kappa \omega^{\alpha\beta\theta} \partial^\kappa \omega_{\alpha\beta\theta} - \frac{2}{3} r_1 \partial_\kappa \omega^{\theta\alpha\beta} \partial^\kappa \omega_{\alpha\beta\theta} + \\
& \frac{2}{3} r_1 \partial^\beta \omega_{\lambda'}^{\alpha\lambda} \partial_\alpha \omega_{\alpha\beta}^{\lambda'} + \frac{4}{3} r_1 \partial^\beta \omega_{\lambda'}^{\lambda\alpha} \partial_\alpha \omega_{\alpha\beta}^{\lambda'} - 4r_3 \partial^\beta \omega_{\lambda'}^{\lambda\alpha} \partial_\alpha \omega_{\alpha\beta}^{\lambda'} + \\
& 2r_1 \partial_\alpha \omega_\lambda^\alpha \partial^\lambda \omega^{\theta\kappa}_\kappa - 2r_3 \partial_\alpha \omega_\lambda^\alpha \partial^\lambda \omega^{\theta\kappa}_\kappa + r_5 \partial_\alpha \omega_\lambda^\alpha \partial^\lambda \omega^{\theta\kappa}_\kappa - \\
& 2r_1 \partial_\theta \omega_\lambda^\alpha \partial^\lambda \omega^{\theta\kappa}_\kappa + 2r_3 \partial_\theta \omega_\lambda^\alpha \partial^\lambda \omega^{\theta\kappa}_\kappa - r_5 \partial_\theta \omega_\lambda^\alpha \partial^\lambda \omega^{\theta\kappa}_\kappa
\end{aligned}$$

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

Unitarity conditions

$$r_1 < 0 \&\& (r_5 < r_1 - 2r_3 \parallel r_5 > -2r_3) \parallel r_1 > 0 \&\& -2r_3 < r_5 < r_1 - 2r_3$$

(No massive particles)



Quadratic pole

Pole residue:	$\frac{1}{r_1(r_1 - 2r_3 - r_5)(2r_3 + r_5)}$	> 0
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Polarisations: 2