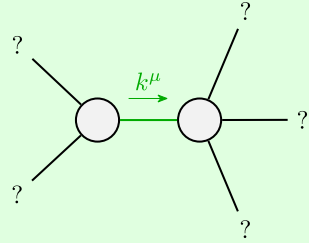


## Lagrangian density

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



Quadratic pole

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

Polarisations: 2

## Unitarity conditions

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

Source constraints	SO(3) irreps	#
$\sigma_{0-}^{\#1} == 0$	$\sigma_{0+}^{\#1}$	1
$\sigma_{0+}^{\#1} == 0$	$\sigma_{0-}^{\#1}$	1
$\sigma_{1-}^{\#2\alpha} == 0$	$\sigma_{1+}^{\#2\alpha}$	3
$\sigma_{1+}^{\#2\alpha\beta} == 0$	$\sigma_{1-}^{\#2\alpha\beta}$	3
$\sigma_{2+}^{\#1\alpha\beta} == 0$	$\sigma_{2-}^{\#1\alpha\beta}$	5
Total #:		13

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

$\omega_{0+}^{\#1}$	$\omega_{0-}^{\#1}$
0	0
0	0

$\sigma_{0+}^{\#1}$	$\sigma_{0-}^{\#1}$
0	0
0	0

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

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

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

(No massive particles)