



$\lambda > 0$

Quadratic pole
Pole residue: $\frac{1}{\lambda} > 0$
Polarisations: 2

(No massive particles)

Lagrangian density

$$\begin{aligned}
& -\lambda \omega_{\iota\kappa\theta} \omega^{\iota\theta\kappa} - \lambda \omega_{\iota'}^{\iota\theta} \omega_{\theta}^{\kappa} - \lambda \omega_{\kappa}^{\iota} \omega_{\iota'}^{\kappa} - \lambda \omega_{\kappa\zeta}^{\iota} \omega_{\zeta}^{\iota'} + f^{\alpha\beta} \tau_{\alpha\beta} + \\
& \omega^{\alpha\beta\chi} \sigma_{\alpha\beta\chi} - 2\lambda f^{\iota\theta} \partial_{\theta} \omega_{\iota}^{\kappa} + 2\lambda \partial_{\theta} \omega_{\iota}^{\iota\theta} + 2\lambda f^{\iota\theta} \partial_{\kappa} \omega_{\iota}^{\kappa} - 2\lambda f^{\iota} \partial_{\kappa} \omega^{\theta\kappa} - \\
& \frac{1}{2} \lambda \partial^{\alpha} f_{\theta\kappa} \partial^{\kappa} f_{\alpha}^{\theta} - \frac{1}{2} \lambda \partial^{\alpha} f_{\kappa\theta} \partial^{\kappa} f_{\alpha}^{\theta} - \frac{1}{2} \lambda \partial^{\alpha} f_{\zeta}^{\kappa} \partial^{\kappa} f_{\alpha}^{\zeta} + \lambda \omega_{\kappa\alpha}^{\iota} \partial^{\kappa} f_{\iota}^{\alpha} + \\
& \lambda \omega_{\kappa\zeta}^{\iota} \partial^{\kappa} f_{\iota}^{\alpha} + 2\lambda \partial^{\alpha} f_{\kappa\alpha} \partial^{\kappa} f_{\iota}^{\iota} - \lambda \partial_{\kappa} f_{\zeta}^{\iota} \partial^{\kappa} f_{\iota}^{\iota} + 2\lambda \omega_{\iota\kappa\theta} \partial^{\kappa} f^{\iota\theta} - \lambda \omega_{\iota\alpha}^{\alpha} \partial^{\kappa} f_{\kappa}^{\iota} - \\
& \lambda \omega_{\iota\zeta}^{\zeta} \partial^{\kappa} f_{\kappa}^{\iota} + \frac{1}{2} \lambda \partial^{\alpha} f_{\kappa}^{\zeta} \partial^{\kappa} f_{\zeta\alpha} + \frac{1}{2} \lambda \partial_{\kappa} f_{\theta}^{\zeta} \partial^{\kappa} f_{\zeta}^{\theta} + \frac{1}{2} \lambda \partial_{\kappa} f_{\theta}^{\zeta} \partial^{\kappa} f_{\zeta}^{\theta} - \lambda \partial^{\alpha} f_{\alpha}^{\zeta} \partial^{\kappa} f_{\zeta\kappa}
\end{aligned}$$

	$\omega_{1^{+}\alpha\beta}^{\#1}$	$\omega_{1^{+}\alpha\beta}^{\#2}$	$f_{1^{+}\alpha\beta}^{\#1}$	$\omega_{1^{-}\alpha}^{\#1}$	$\omega_{1^{-}\alpha}^{\#2}$	$f_{1^{-}\alpha}^{\#1}$	$f_{1^{-}\alpha}^{\#2}$
$\omega_{1^{+}}^{\#1} + \alpha\beta$	0	0	0	0	0	0	0
$\omega_{1^{+}}^{\#2} + \alpha\beta$	0	0	0	0	0	0	0
$f_{1^{+}}^{\#1} + \alpha\beta$	0	0	0	0	0	0	0
$\omega_{1^{-}}^{\#1} + \alpha$	0	0	0	0	0	0	0
$\omega_{1^{-}}^{\#2} + \alpha$	0	0	0	0	0	0	0
$f_{1^{-}}^{\#1} + \alpha$	0	0	0	0	0	0	0
$f_{1^{-}}^{\#2} + \alpha$	0	0	0	0	0	0	0

	$\sigma_{1^{+}\alpha\beta}^{\#1}$	$\sigma_{1^{+}\alpha\beta}^{\#2}$	$\tau_{1^{+}\alpha\beta}^{\#1}$	$\sigma_{1^{-}\alpha}^{\#1}$	$\sigma_{1^{-}\alpha}^{\#2}$	$\tau_{1^{-}\alpha}^{\#1}$	$\tau_{1^{-}\alpha}^{\#2}$
$\sigma_{1^{+}}^{\#1} + \alpha\beta$	0	0	0	0	0	0	0
$\sigma_{1^{+}}^{\#2} + \alpha\beta$	0	0	0	0	0	0	0
$\tau_{1^{+}}^{\#1} + \alpha\beta$	0	0	0	0	0	0	0
$\sigma_{1^{-}}^{\#1} + \alpha$	0	0	0	0	0	0	0
$\sigma_{1^{-}}^{\#2} + \alpha$	0	0	0	0	0	0	0
$\tau_{1^{-}}^{\#1} + \alpha$	0	0	0	0	0	0	0
$\tau_{1^{-}}^{\#2} + \alpha$	0	0	0	0	0	0	0

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

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

Source constraints	SO(3) irreps	#
$\sigma_{0^{-}}^{\#1} == 0$		1
$\tau_{0^{+}}^{\#2} == 0$		1
$\sigma_{0^{+}}^{\#1} == 0$		1
$\tau_{1^{-}}^{\#2\alpha} == 0$		3
$\tau_{1^{-}}^{\#1\alpha} == 0$		3
$\sigma_{1^{-}}^{\#2\alpha} == 0$		3
$\sigma_{1^{-}}^{\#1\alpha} == 0$		3
$\tau_{1^{+}}^{\#1\alpha\beta} == 0$		3
$\sigma_{1^{+}}^{\#2\alpha\beta} == 0$		3
$\sigma_{1^{+}}^{\#1\alpha\beta} == 0$		3
$\sigma_{2^{-}}^{\#1\alpha\beta\chi} == 0$		5
$\sigma_{2^{+}}^{\#1\alpha\beta} == 0$		5
Total #:		34

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

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