

Lagrangian density

$$\begin{aligned} & -t_1 \omega_{\kappa\alpha}^{\alpha'} \omega_{\kappa\alpha}^{\kappa} - t_1 \omega_{\kappa\alpha}^{\kappa\lambda} \omega_{\kappa\lambda}^{'\alpha} + r_1 \partial_{\lambda} \omega_{\kappa}^{\kappa\lambda} \partial_{\lambda} \omega_{\alpha}^{\alpha} - \frac{2}{3} r_1 \partial^{\beta} \omega_{\kappa}^{\theta\alpha} \partial_{\theta} \omega_{\alpha\beta}^{\kappa} - \\ & \frac{2}{3} r_1 \partial_{\theta} \omega_{\alpha\beta}^{\kappa} \partial_{\kappa} \omega^{\alpha\beta\theta} + \frac{2}{3} r_1 \partial_{\theta} \omega_{\alpha\beta}^{\kappa} \partial_{\kappa} \omega^{\theta\alpha\beta} + r_1 \partial_{\alpha} \omega_{\lambda}^{\alpha} \partial_{\theta} \omega^{\theta\kappa\lambda} - \\ & r_1 \partial_{\theta} \omega_{\lambda}^{\alpha} \partial_{\kappa} \omega^{\theta\kappa\lambda} + r_1 \partial_{\alpha} \omega_{\lambda}^{\alpha} \partial_{\theta} \omega^{\kappa\lambda\theta} - 2 r_1 \partial_{\theta} \omega_{\lambda}^{\alpha} \partial_{\kappa} \omega^{\kappa\lambda\theta} - \\ & \frac{1}{2} t_1 \partial^{\alpha} f_{\theta\kappa}^{\kappa} \partial_{\alpha}^{\kappa} f_{\alpha}^{\theta} - \frac{1}{2} t_1 \partial^{\alpha} f_{\kappa\theta}^{\kappa} \partial_{\theta}^{\kappa} f_{\alpha}^{\theta} - \frac{1}{2} t_1 \partial^{\alpha} f_{\alpha}^{\kappa} \partial_{\kappa}^{\theta} f_{\alpha}^{\theta} + \\ & t_1 \omega_{\kappa\alpha}^{\alpha} \partial_{\kappa} f_{\alpha}^{'\theta} + t_1 \omega_{\kappa\lambda}^{\lambda} \partial_{\kappa} f_{\alpha}^{'\theta} + 2 t_1 \partial^{\alpha} f_{\kappa\alpha}^{\kappa} \partial_{\alpha}^{\kappa} f_{\alpha}^{'\theta} - t_1 \partial_{\kappa} f_{\lambda}^{\lambda} \partial_{\alpha}^{\kappa} f_{\alpha}^{'\theta} + \\ & 2 t_1 \omega_{\kappa\theta}^{\theta} \partial_{\kappa} f_{\theta}^{'\theta} - t_1 \omega_{\alpha\lambda}^{\alpha} \partial_{\kappa} f_{\alpha}^{'\theta} - t_1 \omega_{\lambda\alpha}^{\lambda} \partial_{\kappa} f_{\alpha}^{'\theta} + \frac{1}{2} t_1 \partial^{\alpha} f_{\alpha}^{\kappa} \partial_{\kappa}^{\theta} f_{\lambda\alpha}^{'\theta} + \\ & \frac{1}{2} t_1 \partial_{\kappa} f_{\theta}^{\lambda} \partial_{\alpha}^{\kappa} f_{\lambda}^{\theta} + \frac{1}{2} t_1 \partial_{\kappa} f_{\theta}^{\lambda} \partial_{\alpha}^{\kappa} f_{\lambda}^{\theta} - t_1 \partial^{\alpha} f_{\alpha}^{\kappa} \partial_{\kappa}^{\theta} f_{\lambda\kappa}^{'\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_{\alpha}^{\alpha\lambda} \partial_{\lambda} \omega_{\alpha\beta}^{'\theta} - \\ & \frac{8}{3} r_1 \partial^{\beta} \omega_{\alpha}^{\lambda\alpha} \partial_{\lambda} \omega_{\alpha\beta}^{'\theta} - r_1 \partial_{\alpha} \omega_{\lambda}^{\alpha} \partial_{\theta}^{\lambda} \omega_{\kappa}^{\theta\kappa} + r_1 \partial_{\theta} \omega_{\lambda}^{\alpha} \partial_{\alpha}^{\lambda} \omega_{\kappa}^{\theta\kappa} \end{aligned}$$

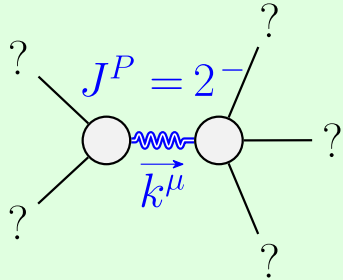
Added source term: $f^{\alpha\beta} \tau_{\alpha\beta} + \omega^{\alpha\beta\chi} \sigma_{\alpha\beta\chi}$

$\sigma_{1+}^{\#1} \dagger^{\alpha\beta}$	$\sigma_{1+}^{\#2} \dagger^{\alpha\beta}$	$\tau_{1+}^{\#1} \dagger^{\alpha\beta}$	$\sigma_{1-}^{\#1} \dagger^{\alpha}$	$\sigma_{1-}^{\#2} \dagger^{\alpha}$	$\tau_{1-}^{\#1} \dagger^{\alpha}$	$\tau_{1-}^{\#2} \dagger^{\alpha}$
0	$-\frac{\sqrt{2}}{t_1+k^2}t_1$	$-\frac{i\sqrt{2}k}{t_1+k^2}t_1$	0	0	0	0
$-\frac{\sqrt{2}}{t_1+k^2}t_1$	$-\frac{-2k^2r_1+t_1}{(1+k^2)^2}t_1^2$	$-\frac{i(2k^3r_1-kt_1)}{(1+k^2)^2}t_1^2$	0	0	0	0
$\frac{i\sqrt{2}k}{t_1+k^2}t_1$	$\frac{i(2k^3r_1-kt_1)}{(1+k^2)^2}t_1^2$	$\frac{-2k^4r_1+k^2t_1}{(1+k^2)^2}t_1^2$	0	0	0	0
0	0	0	0	$\frac{\sqrt{2}}{t_1+2k^2}t_1$	0	$\frac{2ik}{t_1+2k^2}t_1$
0	0	0	$\frac{\sqrt{2}}{t_1+2k^2}t_1$	$\frac{1}{(1+2k^2)^2}t_1$	0	$\frac{i\sqrt{2}k}{(1+2k^2)^2}t_1$
0	0	0	0	0	0	0
0	0	0	$-\frac{2ik}{t_1+2k^2}t_1$	$-\frac{i\sqrt{2}k}{(1+2k^2)^2}t_1$	0	$\frac{2k^2}{(1+2k^2)^2}t_1$

$\omega_{1+}^{\#1} \dagger^{\alpha\beta}$	$\omega_{1+}^{\#2} \dagger^{\alpha\beta}$	$f_{1+}^{\#1} \dagger^{\alpha\beta}$	$\omega_{1-}^{\#1} \dagger^{\alpha}$	$\omega_{1-}^{\#2} \dagger^{\alpha}$	$f_{1-}^{\#1} \dagger^{\alpha}$	$f_{1-}^{\#2} \dagger^{\alpha}$
$k^2r_1-\frac{t_1}{2}$	$-\frac{t_1}{\sqrt{2}}$	$-\frac{ikt_1}{\sqrt{2}}$	0	0	0	0
$-\frac{t_1}{\sqrt{2}}$	0	0	0	0	0	0
$\frac{ikt_1}{\sqrt{2}}$	0	0	0	0	0	0
0	0	0	$-\frac{t_1}{2}$	$\frac{t_1}{\sqrt{2}}$	0	$ik t_1$
0	0	0	$\frac{t_1}{\sqrt{2}}$	0	0	0
0	0	0	0	0	0	0
0	0	0	$-ik t_1$	0	0	0

$\sigma_{2+}^{\#1} \dagger^{\alpha\beta}$	$\tau_{2+}^{\#1} \dagger^{\alpha\beta}$	$\sigma_{2-}^{\#1} \dagger^{\alpha\beta\chi}$
$\frac{2}{(1+2k^2)^2}t_1$	$-\frac{2i\sqrt{2}k}{(1+2k^2)^2}t_1$	0
$\frac{2i\sqrt{2}k}{(1+2k^2)^2}t_1$	$\frac{4k^2}{(1+2k^2)^2}t_1$	0
0	0	$\frac{2}{2k^2r_1+t_1}$

$\sigma_{0+}^{\#1} \dagger$	$\tau_{0+}^{\#1} \dagger$	$\tau_{0+}^{\#2} \dagger$	$\sigma_{0-}^{\#1} \dagger$
$-\frac{1}{(1+2k^2)^2}t_1$	$-\frac{i\sqrt{2}k}{(1+2k^2)^2}t_1$	0	0
$-\frac{i\sqrt{2}k}{(1+2k^2)^2}t_1$	$-\frac{2k^2}{(1+2k^2)^2}t_1$	0	0
0	0	0	$-\frac{1}{t_1}$



Massive particle	
Pole residue:	$-\frac{1}{r_1} \succ 0$
Polarisations:	5
Square mass:	$-\frac{t_1}{2r_1} \succ 0$
Spin:	2
Parity:	Odd

$r_1 < 0 \ \&\& \ t_1 > 0$

Unitarity conditions

(No massless particles)