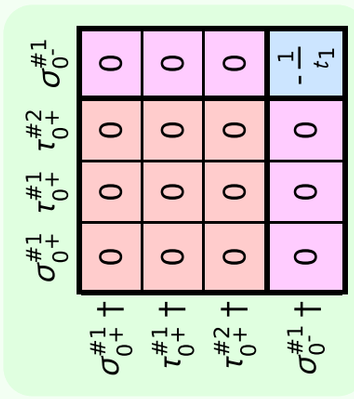
Lagrangian density

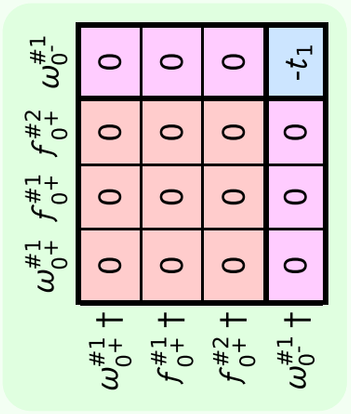
$$-\frac{1}{3} t_1\ \omega_{\iota}{}^{\alpha\iota}\ \omega_{\kappa\alpha}{}^{\kappa} - t_1\ \omega_{\iota}{}^{\kappa\lambda}\ \omega_{\kappa\lambda}{}^{\iota} - r_5\ \partial_{\iota}\omega^{\kappa\lambda}{}_{\kappa}\partial^{\iota}\omega_{\lambda}{}^{\alpha}{}_{\alpha} - r_5\ \partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial_{\kappa}\omega^{\theta\kappa\lambda} +$$
$$r_5\ \partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\partial_{\kappa}\omega^{\theta\kappa\lambda} - r_5\ \partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial_{\kappa}\omega^{\kappa\lambda\theta} + 2\, r_5\ \partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\partial_{\kappa}\omega^{\kappa\lambda\theta} -$$
$$\frac{1}{2} t_1\ \partial^{\alpha}f_{\theta\kappa}\partial^{\kappa}f_{\alpha}{}^{\theta} - \frac{1}{2} t_1\ \partial^{\alpha}f_{\kappa\theta}\partial^{\kappa}f_{\alpha}{}^{\theta} - \frac{1}{2} t_1\ \partial^{\alpha}f^{\lambda}{}_{\kappa}\partial^{\kappa}f_{\alpha\lambda} +$$
$$\frac{1}{3} t_1\ \omega_{\kappa\alpha}{}^{\alpha}\partial^{\kappa}f'_{\iota} + \frac{1}{3} t_1\ \omega_{\kappa\lambda}{}^{\lambda}\partial^{\kappa}f'_{\iota} + \frac{2}{3} t_1\ \partial^{\alpha}f_{\kappa\alpha}\partial^{\kappa}f'_{\iota} -$$
$$\frac{1}{3} t_1\ \partial_{\kappa}f^{\lambda}{}_{\lambda}\partial^{\kappa}f'_{\iota} + 2\, t_1\ \omega_{\iota\kappa\theta}\partial^{\kappa}f'^{\theta} - \frac{1}{3} t_1\ \omega_{\iota\alpha}{}^{\alpha}\partial^{\kappa}f'_{\kappa} - \frac{1}{3} t_1\ \omega_{\iota\lambda}{}^{\lambda}\partial^{\kappa}f'_{\kappa} +$$
$$\frac{1}{2} t_1\ \partial^{\alpha}f^{\lambda}{}_{\kappa}\partial^{\kappa}f_{\lambda\alpha} + \frac{1}{2} t_1\ \partial_{\kappa}f_{\theta}{}^{\lambda}\partial^{\kappa}f_{\lambda}{}^{\theta} + \frac{1}{2} t_1\ \partial_{\kappa}f^{\lambda}{}_{\theta}\partial^{\kappa}f_{\lambda}{}^{\theta} -$$
$$\frac{1}{3} t_1\ \partial^{\alpha}f^{\lambda}{}_{\alpha}\partial^{\kappa}f_{\lambda\kappa} + r_5\ \partial_{\alpha}\omega_{\lambda}{}^{\alpha}{}_{\theta}\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa} - r_5\ \partial_{\theta}\omega_{\lambda}{}^{\alpha}{}_{\alpha}\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}$$

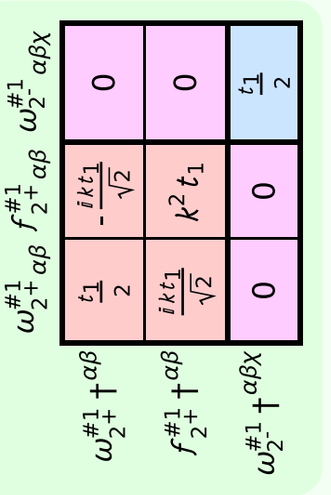
Added source term: $f^{\alpha\beta}\ \tau_{\alpha\beta} + \omega^{\alpha\beta\chi}\ \sigma_{\alpha\beta\chi}$

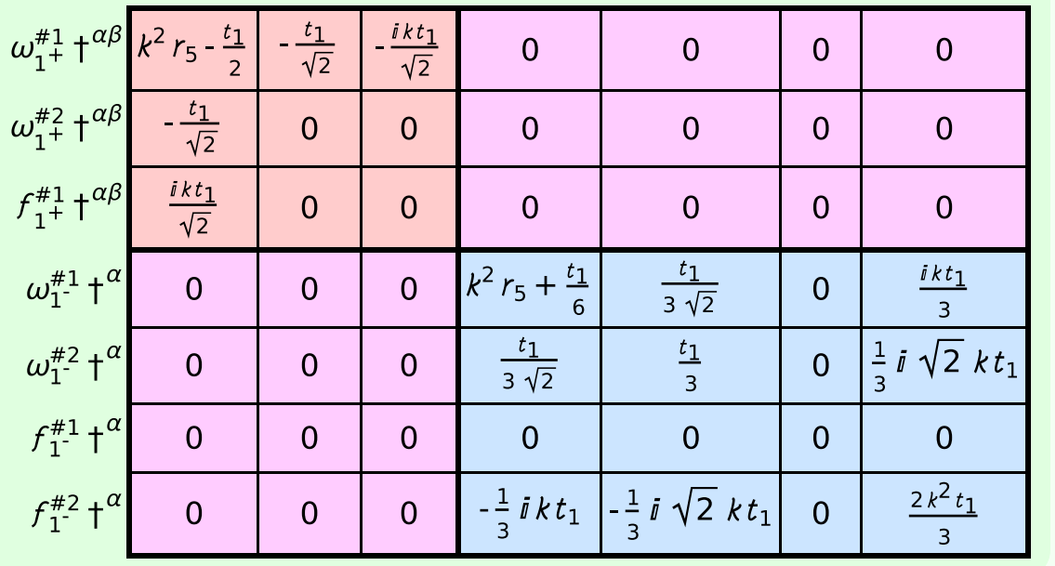
Source constraints

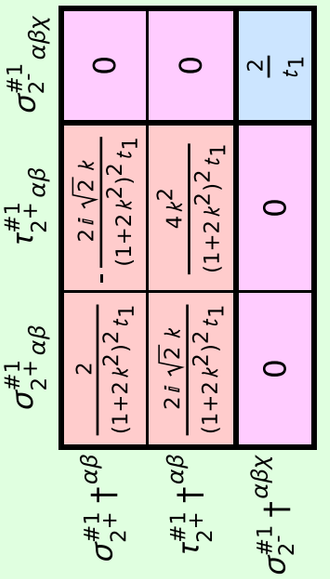
| SO(3) irreps | # |
|---|---|
| $\sigma_{0^+}^{\#1} == 0$ | 1 |
| $\tau_{0^+}^{\#1} == 0$ | 1 |
| $\tau_{0^+}^{\#2} == 0$ | 1 |
| $\tau_{1^-}^{\#2\,\alpha} + 2\,i\,k\ \sigma_{1^-}^{\#2\,\alpha} == 0$ | 3 |
| $\tau_{1^-}^{\#1\,\alpha} == 0$ | 3 |
| $\tau_{1^+}^{\#1\,\alpha\beta} + i\,k\ \sigma_{1^+}^{\#2\,\alpha\beta} == 0$ | 3 |
| $\tau_{2^+}^{\#1\,\alpha\beta} - 2\,i\,k\ \sigma_{2^+}^{\#1\,\alpha\beta} == 0$ | 5 |
| Total #: | 17 |



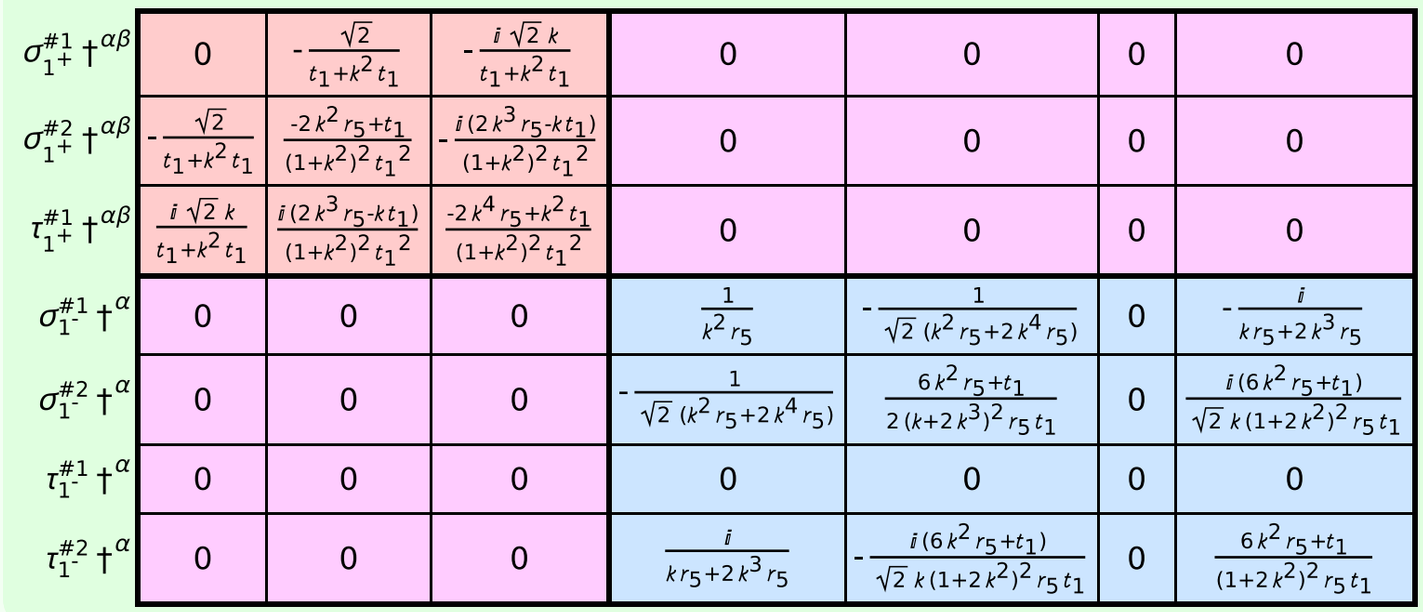




Unitarity conditions

$$r_5 < 0\ \&\&\ t_1 < 0\ ||\ t_1 > 0$$

(No massive particles)




Quadratic pole

| Pole residue: | $-\frac{1}{r_5\,t_1{}^2} > 0$ |
|---|---|
| Polarisations: | 2 |