

Lagrangian density

$$\beta \partial_\alpha \phi \partial^\alpha \phi + \frac{1}{2} \alpha \partial_\beta h^\chi_\chi \partial^\beta h^\alpha_\alpha + \alpha \partial_\alpha h^{\alpha\beta} \partial_\chi h^\chi_\beta - \alpha \partial^\beta h^\alpha_\alpha \partial_\chi h^\chi_\beta - \frac{1}{2} \alpha \partial_\chi h_{\alpha\beta} \partial^\chi h^{\alpha\beta}$$

Added source term: $\phi \rho + h^{\alpha\beta} \mathcal{T}_{\alpha\beta}$

$$\mathcal{T}_{2^+}^{\#1}{}_{\alpha\beta} \quad \mathcal{T}_{2^+}^{\#1}{}_{\alpha\beta} \dagger^{\alpha\beta} \quad \boxed{-\frac{2}{\alpha k^2}}$$

$$h_{2^+}^{\#1}{}_{\alpha\beta} \quad h_{2^+}^{\#1}{}_{\alpha\beta} \dagger^{\alpha\beta} \quad \boxed{-\frac{\alpha k^2}{2}}$$

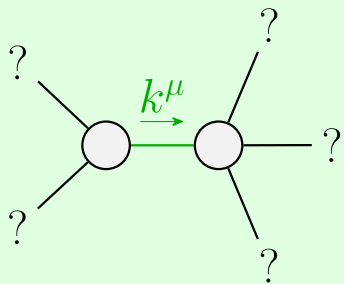
$$\mathcal{T}_{1^-}^{\#1}{}_\alpha \quad \mathcal{T}_{1^-}^{\#1}{}_\alpha \dagger^\alpha \quad \boxed{0}$$

$$h_{1^-}^{\#1}{}_\alpha \quad h_{1^-}^{\#1}{}_\alpha \dagger^\alpha \quad \boxed{0}$$

$\mathcal{T}_{0^+}^{\#1}{}_{\alpha\beta}$	$\mathcal{T}_{0^+}^{\#2}{}_{\alpha\beta}$	$\rho_{0^+}^{\#1}$
$\mathcal{T}_{0^+}^{\#1}{}_{\alpha\beta} \dagger^{\alpha\beta}$	$\mathcal{T}_{0^+}^{\#2}{}_{\alpha\beta} \dagger^{\alpha\beta}$	$\rho_{0^+}^{\#1} \dagger$
$\frac{1}{\alpha k^2}$	0	0
0	0	0
0	0	$\frac{1}{\beta k^2}$

Source constraints	SO(3) irreps	#
$\mathcal{T}_{0^+}^{\#2}{}_{\alpha\beta} \dagger^{\alpha\beta} = 0$	1	1
$\mathcal{T}_{1^-}^{\#1}{}_\alpha \dagger^\alpha = 0$	3	3
Total #:		4

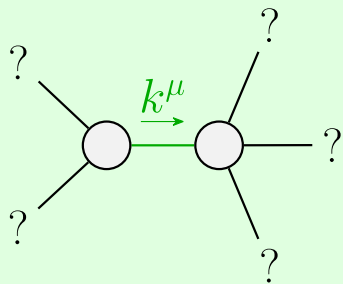
$h_{0^+}^{\#1}{}_{\alpha\beta}$	$h_{0^+}^{\#2}{}_{\alpha\beta}$	$\phi_{0^+}^{\#1}$
$h_{0^+}^{\#1}{}_{\alpha\beta} \dagger^{\alpha\beta}$	$h_{0^+}^{\#2}{}_{\alpha\beta} \dagger^{\alpha\beta}$	$\phi_{0^+}^{\#1} \dagger$
αk^2	0	0
0	0	0
0	0	βk^2



Quadratic pole

Pole residue: $-\frac{1}{\alpha} > 0$

Polarisations: 2



Quadratic pole

Pole residue: $\frac{1}{\beta} > 0$

Polarisations: 1

Unitarity conditions
 $\alpha < 0 \ \& \ \beta > 0$

(No massive particles)