

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

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

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

$h_{0+}^{\#1} +$	$h_{0+}^{\#2}$	$\phi_{0+}^{\#1}$
αk^2	0	0
0	0	0
0	0	βk^2

$\mathcal{T}_{2+}^{\#1} + \alpha\beta$

$-\frac{2}{\alpha k^2}$

$h_{2+}^{\#1} + \alpha\beta$

$-\frac{\alpha k^2}{2}$

$\mathcal{T}_{1-}^{\#1} + \alpha$

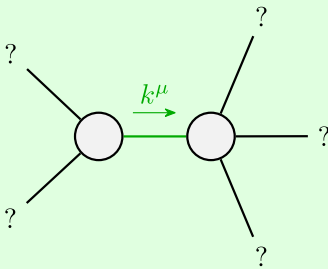
0

$\mathcal{T}_{1-}^{\#1\alpha}$

$h_{1-}^{\#1} + \alpha$

0

$h_{1-}^{\#1\alpha}$

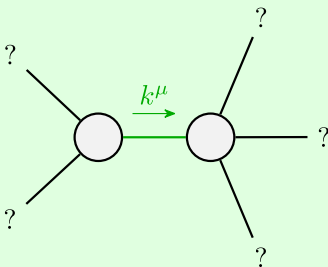


Quadratic pole

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

Polarisations: 2

(No massive particles)



Quadratic pole

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

Polarisations: 1

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