

## Lagrangian density

$$\beta h_{\alpha\beta} h^{\alpha\beta} - \beta h^\alpha_\alpha h^\beta_\beta +$$

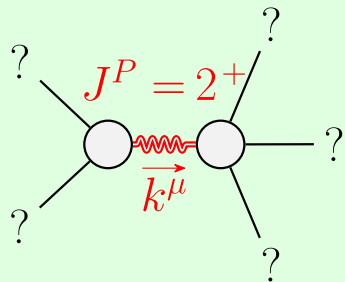
$$\frac{1}{2} \alpha \partial_\beta h^\chi_\chi \partial^\beta h^\alpha_\alpha + \alpha \partial_\alpha h^{\alpha\beta} \partial_\chi h^\chi_\beta -$$

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

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

(No source constraints)



Massive particle

Pole residue:	$-\frac{2}{\alpha} > 0$
Polarisations:	5
Square mass:	$\frac{2\beta}{\alpha} > 0$
Spin:	2
Parity:	Even

$h_{0+}^{\#1} + h_{0+}^{\#2}$	$h_{0+}^{\#1}$	$h_{0+}^{\#2}$
$-2\beta + \alpha k^2$	0	$-\frac{1}{\sqrt{3}\beta}$
$-\sqrt{3}\beta$	$-\frac{1}{\sqrt{3}\beta}$	0

$\mathcal{T}_{0+}^{\#1} + \mathcal{T}_{0+}^{\#2}$	$\mathcal{T}_{0+}^{\#1}$	$\mathcal{T}_{0+}^{\#2}$
0	0	$-\frac{1}{\sqrt{3}\beta}$
$-\frac{1}{\sqrt{3}\beta}$	$-\frac{1}{\sqrt{3}\beta}$	$\frac{2\beta - \alpha k^2}{3\beta^2}$

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

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

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

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

(No massless particles)

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