Lagrangian density

$$\beta\, h_{\alpha\beta}\, h^{\alpha\beta} - \gamma\, h^{\alpha}{}_{\alpha}\, h^{\beta}{}_{\beta} + h^{\alpha\beta}\, \mathcal{T}_{\alpha\beta} + \tfrac{1}{2}\, \alpha\, \partial_{\beta} h^{\chi}{}_{\chi}\, \partial^{\beta} h^{\alpha}{}_{\alpha} + \alpha\, \partial_{\alpha} h^{\alpha\beta}\, \partial_{\chi} h_{\beta}{}^{\chi} - \alpha\, \partial^{\beta} h^{\alpha}{}_{\alpha}\, \partial_{\chi} h_{\beta}{}^{\chi} - \tfrac{1}{2}\, \alpha\, \partial_{\chi} h_{\alpha\beta}\, \partial^{\chi} h^{\alpha\beta}$$

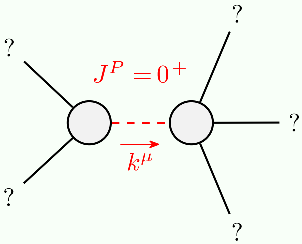
$$\begin{array}{c|cc}
 & \mathcal{T}^{\#1}_{0^+} & \mathcal{T}^{\#2}_{0^+} \\ \hline
\mathcal{T}^{\#1}_{0^+}{}^{\dagger} & \dfrac{1}{\frac{\beta(\beta-4\gamma)}{\beta-\gamma} + \alpha k^2} & \dfrac{\sqrt{3}\,\gamma}{\beta(\beta-4\gamma) + \alpha(\beta-\gamma)k^2} \\
\mathcal{T}^{\#2}_{0^+}{}^{\dagger} & \dfrac{\sqrt{3}\,\gamma}{\beta(\beta-4\gamma) + \alpha(\beta-\gamma)k^2} & \dfrac{1}{\beta + \gamma\left(-1 - \frac{3\gamma}{\beta - 3\gamma + \alpha k^2}\right)}
\end{array}$$

$$\begin{array}{c|cc}
 & h^{\#1}_{0^+} & h^{\#2}_{0^+} \\ \hline
h^{\#1}_{0^+}{}^{\dagger} & \beta - 3\gamma + \alpha k^2 & -\sqrt{3}\,\gamma \\
h^{\#2}_{0^+}{}^{\dagger} & -\sqrt{3}\,\gamma & \beta - \gamma
\end{array}$$

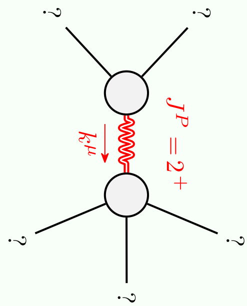
(No source constraints)

$$\begin{array}{c|c}
 & \mathcal{T}^{\#1}_{2^+\,\alpha\beta} \\ \hline
\mathcal{T}^{\#1}_{2^+}{}^{\dagger\,\alpha\beta} & \dfrac{1}{\beta - \frac{\alpha k^2}{2}}
\end{array}$$

$$\begin{array}{c|c}
 & h^{\#1}_{2^+\,\alpha\beta} \\ \hline
h^{\#1}_{2^+}{}^{\dagger\,\alpha\beta} & \beta - \dfrac{\alpha k^2}{2}
\end{array}
\qquad
\begin{array}{c|c}
 & \mathcal{T}^{\#1}_{1^-\,\alpha} \\ \hline
\mathcal{T}^{\#1}_{1^-}{}^{\dagger\,\alpha} & \dfrac{1}{\beta}
\end{array}
\qquad
\begin{array}{c|c}
 & h^{\#1}_{1^-\,\alpha} \\ \hline
h^{\#1}_{1^-}{}^{\dagger\,\alpha} & \beta
\end{array}$$



Massive particle	
Pole residue:	$\frac{\beta^2 - 2\beta\gamma + 4\gamma^2}{\alpha(\beta-\gamma)^2} > 0$
Polarisations:	1
Square mass:	$-\frac{\beta(\beta-4\gamma)}{\alpha(\beta-\gamma)} > 0$
Spin:	0
Parity:	Even



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

(No massless particles)

(Unitarity is demonstrably impossible)