$$
\begin{array}{c|cccc}
 & \phi^{\#1}_{0^+} & \mathcal{A}^{\#1}_{0^+} & \mathcal{B}^{\#1}_{0^+} & \mathcal{C}^{\#1}_{0^+} \\
\hline
\phi^{\#1}_{0^+}\,\dagger & \zeta + k^2\,\delta & \frac{i\,k\,\epsilon}{2} & 0 & 0 \\
\mathcal{A}^{\#1}_{0^+}\,\dagger & -\frac{1}{2}\,i\,k\,\epsilon & k^2\,\alpha & 0 & 0 \\
\mathcal{B}^{\#1}_{0^+}\,\dagger & 0 & 0 & 0 & 0 \\
\mathcal{C}^{\#1}_{0^+}\,\dagger & 0 & 0 & 0 & 0
\end{array}
\qquad
\begin{array}{c|ccc}
 & \mathcal{A}^{\#1}_{1^-}{}_{\alpha} & \mathcal{B}^{\#1}_{1^-}{}_{\alpha} & \mathcal{C}^{\#1}_{1^-}{}_{\alpha} \\
\hline
\mathcal{A}^{\#1}_{1^-}\,\dagger^{\alpha} & 0 & 0 & 0 \\
\mathcal{B}^{\#1}_{1^-}\,\dagger^{\alpha} & 0 & k^2\,\beta & \frac{k^2\,\gamma}{2} \\
\mathcal{C}^{\#1}_{1^-}\,\dagger^{\alpha} & 0 & \frac{k^2\,\gamma}{2} & k^2\,\delta
\end{array}
$$

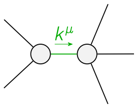
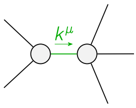
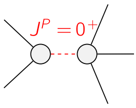
$$
\begin{array}{c|cccc}
 & \rho^{\#1}_{0^+} & \mathcal{J}^{\#1}_{0^+} & \mathcal{K}^{\#1}_{0^+} & \mathcal{K}^{\#1}_{0^+} \\
\hline
\rho^{\#1}_{0^+}\,\dagger & \frac{k^2\,\alpha}{\mathrm{Det}(0^+)} & -\frac{i\,k\,\epsilon}{2\,\mathrm{Det}(0^+)} & 0 & 0 \\
\mathcal{J}^{\#1}_{0^+}\,\dagger & \frac{i\,k\,\epsilon}{2\,\mathrm{Det}(0^+)} & \frac{\zeta+k^2\,\delta}{\mathrm{Det}(0^+)} & 0 & 0 \\
\mathcal{K}^{\#1}_{0^+}\,\dagger & 0 & 0 & 0 & 0 \\
\mathcal{K}^{\#1}_{0^+}\,\dagger & 0 & 0 & 0 & 0
\end{array}
\qquad
\begin{array}{c|ccc}
 & \mathcal{J}^{\#1}_{1^-}{}_{\alpha} & \mathcal{K}^{\#1}_{1^-}{}_{\alpha} & \mathcal{K}^{\#1}_{1^-}{}_{\alpha} \\
\hline
\mathcal{J}^{\#1}_{1^-}\,\dagger^{\alpha} & 0 & 0 & 0 \\
\mathcal{K}^{\#1}_{1^-}\,\dagger^{\alpha} & 0 & \frac{k^2\,\delta}{\mathrm{Det}(1^-)} & -\frac{k^2\,\gamma}{2\,\mathrm{Det}(1^-)} \\
\mathcal{K}^{\#1}_{1^-}\,\dagger^{\alpha} & 0 & -\frac{k^2\,\gamma}{2\,\mathrm{Det}(1^-)} & \frac{k^2\,\beta}{\mathrm{Det}(1^-)}
\end{array}
$$

Abbreviations used in matrices

$\mathrm{Det}(0^+) == \frac{1}{4}\,k^2\,(-\epsilon^2 + 4\,\alpha\,(\zeta + k^2\,\delta))\ \&\&\ \mathrm{Det}(1^-) == \frac{1}{4}\,k^4\,(4\,\delta\,\beta - \gamma^2)$

Lagrangian

$$\zeta\,\phi^2 + \epsilon\,\phi\,\partial_\alpha\mathcal{A}^\alpha + \delta\,\partial_\alpha\phi\,\partial^\alpha\phi + \beta\,\partial_\alpha\mathcal{B}_\beta\,\partial^\alpha\mathcal{B}^\beta + \gamma\,\partial_\alpha\mathcal{B}_\beta\,\partial^\alpha\mathcal{C}^\beta + \delta\,\partial_\alpha\mathcal{C}_\beta\,\partial^\alpha\mathcal{C}^\beta + \alpha\,\partial_\alpha\mathcal{A}^\alpha\,\partial_\beta\mathcal{A}^\beta - \beta\,\partial_\alpha\mathcal{B}_\beta\,\partial^\beta\mathcal{B}^\alpha - \gamma\,\partial_\alpha\mathcal{B}_\beta\,\partial^\beta\mathcal{C}^\alpha - \delta\,\partial_\alpha\mathcal{C}_\beta\,\partial^\beta\mathcal{C}^\alpha$$

Added source term(s):	$\phi\,\rho + \mathcal{A}^\alpha\ \mathcal{J}_\alpha + \mathcal{B}^\alpha\ \mathcal{K}_\alpha + \mathcal{C}^\alpha\ \mathcal{K}_\alpha$		
Source constraint(s)	# constraint(s)	Covariant form	
$\mathcal{K}^{\#1}_{0^+} == 0$	1	$\partial_\alpha\mathcal{K}^\alpha == 0$	
$\mathcal{K}^{\#1}_{0^+} == 0$	1	$\partial_\alpha\mathcal{K}^\alpha == 0$	
$\mathcal{J}^{\#1\,\alpha}_{1^-} == 0$	3	$\partial_\beta\partial^\alpha\mathcal{J}^\beta == \partial_\beta\partial^\beta\mathcal{J}^\alpha$	
Total # constraint(s):	5		
Resolved pole(s)	# polarization(s)	Square mass	Residue
	2	0	$-\frac{\delta+\beta+\sqrt{\delta^2-2\,\delta\,\beta+\beta^2+\gamma^2}}{4\,\delta\,\beta-\gamma^2}$
	2	0	$-\frac{\delta+\beta-\sqrt{\delta^2-2\,\delta\,\beta+\beta^2+\gamma^2}}{4\,\delta\,\beta-\gamma^2}$
	1	$\frac{\epsilon^2-4\,\alpha\,\zeta}{4\,\alpha\,\delta}$	$\frac{\alpha\,\epsilon^2-4\,\alpha^2\,\zeta+\epsilon^2\,\delta}{\alpha\,\epsilon^2\,\delta-4\,\alpha^2\,\zeta\,\delta}$
Resolved unitarity condition(s):	(Demonstrably impossible)		