

PSALTer results panel

$$\mathcal{S} = \iiint (\mathcal{B}^\alpha \mathcal{T}_\alpha + \alpha_2 \partial_\alpha \mathcal{B}^\alpha \partial_\beta \mathcal{B}^\beta + \alpha_1 \partial_\beta \mathcal{B}_\alpha \partial^\beta \mathcal{B}^\alpha) [t, x, y, z] dz dy dx dt$$

Wave operator

$${}^{0+}\mathcal{B} \vdash \begin{array}{c|c} {}^{0+}\mathcal{B} & \textcolor{red}{(\alpha_1 + \alpha_2)k^2} \\ \hline \textcolor{blue}{\alpha_1 k^2} & {}^{1-}\mathcal{B}_\alpha \end{array}$$

Saturated propagator

$${}^{0+}\mathcal{T} \vdash \begin{array}{c|c} {}^{0+}\mathcal{T} & \textcolor{red}{\frac{1}{(\alpha_1 + \alpha_2)k^2}} \\ \hline \textcolor{blue}{\frac{1}{\alpha_1 k^2}} & {}^{1-}\mathcal{T}_\alpha \end{array}$$

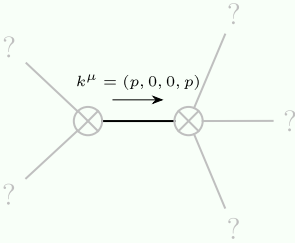
Source constraints

(No source constraints)

Massive spectrum

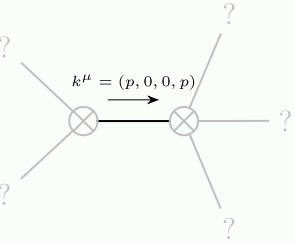
(No particles)

Massless spectrum



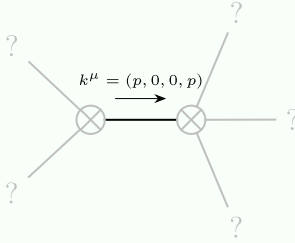
Massless particle

Pole residue:	$-\frac{1}{\alpha_1} - \frac{1}{\alpha_1 + \alpha_2} > 0$
Polarisations:	1



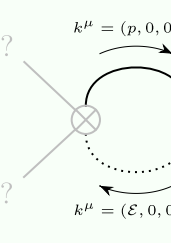
Massless particle

Pole residue:	$-\frac{1}{\alpha_1} > 0$
Polarisations:	2



Massless particle

Pole residue:	$\frac{1}{\alpha_1} + \frac{1}{\alpha_1 + \alpha_2} > 0$
Polarisations:	1



Quartic pole

Pole residue:	$0 < -\frac{\alpha_2 p^2}{\alpha_1 (\alpha_1 + \alpha_2)} \ \&\& \ -\frac{\alpha_2 p^2}{\alpha_1 (\alpha_1 + \alpha_2)} > 0$
Polarisations:	1

Unitarity conditions

(Demonstrably impossible)