# PSALTer results panel

## Wave operator and propagator

| Spin-parity form | Covariant form | Multiplicities |
|---|---|---|
| $\overset{\#1}{\mathcal{J}}{}^{1+}_{\alpha\beta}$ · $\overset{\#1}{\mathcal{J}}{}^{1+}_{\alpha\beta}$ : $0$ ; $\frac{\omega}{k^2}{}_\alpha$ | $\overset{\#1}{\mathcal{B}}{}^{1+}_{\alpha\beta}$ · $\overset{\#1}{\mathcal{B}}{}^{1+}_{\alpha\beta}$ : $0$ ; $\frac{k^2}{\omega}{}_\alpha$ | |

Total expected gauge generators: 3

$\overset{\#1}{\mathcal{J}}{}^{1-}_{\alpha} == 0$ · $\partial_\beta \mathcal{J}^{\alpha\beta} == 0$ — $3$ · $3$

$$\mathcal{S} == \iiiint \left( \mathcal{B}^{\alpha\beta}\, \mathcal{J}_{\alpha\beta} + \frac{1}{3}\,\alpha\,(-2\,\partial_\beta\mathcal{B}_{\alpha\chi} + \partial_\chi\mathcal{B}_{\alpha\beta})\,\partial^\chi\mathcal{B}^{\alpha\beta} \right)[t, x, y, z]\, dz\, dy\, dx \cdots$$

## Massive and massless spectra



Massless particle — Poleresidue: $\frac{1}{\alpha} > 0$ ; Polarisations: $1$

$k^\mu = (p, 0, 0, p)$
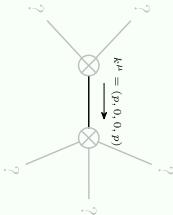
(No particles)

## Unitarity conditions