PSALTer results panel $S == \iiint \left(h^{\alpha\beta} \mathcal{T}_{\alpha\beta} + \frac{1}{2} \alpha_1 \partial_{\beta} h^{\chi}_{\chi} \partial^{\beta} h^{\alpha}_{\alpha} + \alpha_1 \left(\partial_{\alpha} h^{\alpha\beta} - \partial^{\beta} h^{\alpha}_{\alpha} \right) \partial_{\chi} h^{\chi}_{\beta} - \frac{1}{2} \alpha_2 \partial_{\chi} h_{\alpha\beta} \partial^{\chi} h^{\alpha\beta} \right) [t, x, y, z] dz dy dx dt$ **Wave operator** Saturated propagator Source constraints (No source constraints) **Massive spectrum** (No particles) Massless spectrum Massless particle Massless particle Pole residue: $\left| \frac{\left(\frac{(\alpha, -2 \, \alpha,) \, p^2}{1 \, 2 \, 2} \right) p^2}{\left(\frac{(\alpha, -\alpha,) \, \alpha, }{1 \, 2 \, 2} \right)} > 0 \right|$ Pole residue: $\left| -\frac{\left(\alpha.-2\alpha.\right)p^2}{\left(\alpha_1-\alpha_2\right)\alpha_2} > 0 \right|$ Polarisations: 2 Polarisations: 2 Massless particle Massless particle Pole residue: $\left| -\frac{p^2}{\alpha_{\cdot}} > 0 \right|$ Polarisations: 2 Polarisations: $k^{\mu} = (p, 0, 0, p)$ $k^{\mu} = (p, 0, 0, p)$ Massless particle Massless particle Pole residue: $\left| -(((2\alpha.^2 - 5\alpha.\alpha. + 2\alpha.^2 + 2\alpha.^2) + \alpha.^2 + 2\alpha.^2 + \alpha.^2) \right|$ Pole residue: $\sqrt{(\alpha_1^2)(4\alpha_1^2-8\alpha_1^2)}$ Polarisations: 1 $\alpha_{.} + 5 \alpha_{.}^{2}))) p^{2})/$ $((\alpha_{1} - \alpha_{1})(3\alpha_{1} - \alpha_{1})\alpha_{2})) > 0$ Polarisations: 1 Massless particle Quartic pole Pole residue: $\left| ((-2\alpha.^{2} + 5\alpha.\alpha. - 2\alpha.^{2} + 1\alpha.^{2} + 1\alpha.^{2$ $0 < -\frac{\alpha_1 p^4}{(\alpha_1 - \alpha_1) \alpha_1} \&\& -\frac{\alpha_1 p^4}{(\alpha_1 - \alpha_1) \alpha_2} > 0$ Pole residue: $\sqrt{(\alpha_1^2)(4\alpha_1^2 - 8\alpha_1\alpha_1^2 + \alpha_1^2)}$ Polarisations: $5 \alpha.^{2}))) p^{2})/$ $((\alpha_{1} - \alpha_{1}) (3 \alpha_{1} - \alpha_{1}) \alpha_{1}) >$ Polarisations: 1 $k^{\mu} = (\mathcal{E}, 0, 0, p)$ Quartic pole $0 < -\frac{\alpha_{1}(3\alpha_{1} + \sqrt{105\alpha_{1}^{2} - 96\alpha_{1}\alpha_{1} + 48\alpha_{2}^{2}})p^{4}}{(\alpha_{1} - \alpha_{1})(3\alpha_{1} - \alpha_{1})\alpha_{2}} \&\&$ $0 < \frac{\alpha_{1} (-3 \alpha_{1} + \sqrt{105 \alpha_{1}^{2} - 96 \alpha_{1} \alpha_{2} + 48 \alpha_{2}^{2}}) p^{4}}{(\alpha_{1} - \alpha_{1}) (3 \alpha_{1} - \alpha_{1}) \alpha_{2}} \& \&$ Pole residue: Pole residue: $\frac{\frac{\alpha.(3\alpha.+\sqrt{105\alpha.^{2}-96\alpha.\alpha.+48\alpha.^{2}})p^{4}}{\frac{(\alpha.-\alpha.)(3\alpha.-\alpha.)\alpha.}{1^{2}}(\frac{\alpha.-\alpha.}{2})\alpha.}}{\frac{\alpha.-\alpha.}{1^{2}}(\frac{\alpha.-\alpha.}{2})\alpha.}$ $\frac{\alpha_{\frac{1}{1}}(-3\alpha_{\frac{1}{1}}+\sqrt{105\alpha_{\frac{1}{2}}^{2}-96\alpha_{\frac{1}{2}}\alpha_{\frac{1}{2}}+48\alpha_{\frac{1}{2}}^{2})p^{4}}{(\alpha_{\frac{1}{2}}-\alpha_{\frac{1}{2}})(3\alpha_{\frac{1}{2}}-\alpha_{\frac{1}{2}})\alpha_{\frac{1}{2}}}>0$ Polarisations: 1 Polarisations: 1 Hexic pole Pole residue: $0 < -\frac{\alpha \cdot ^2 p^6}{3 \alpha \cdot ^2 \alpha \cdot ^2 4 \alpha \cdot \alpha \cdot ^2 + \alpha \cdot ^3}{3 \alpha \cdot ^2 \alpha \cdot ^2 \alpha \cdot ^2 \alpha \cdot ^2 \alpha \cdot ^2} \&\&$ $-\frac{\alpha_1^2 p^6}{3 \alpha_1^2 \alpha_2 - 4 \alpha_1 \alpha_2^2 + \alpha_1^3} > 0$ Polarisations: 1 **Unitarity conditions** (Demonstrably impossible)