

Wave operator and propagator

[illegible][illegible]

$\hat{\mathcal{I}}^{\dagger}\mathcal{I}^{\parallel} + \partial^{\dagger}\partial$	$\frac{1}{2c_2}$	0	0	0	0	0	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel} + \partial\partial\mathcal{X}$	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel}$
$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel} + \partial^{\dagger}\partial$	0	0	0	0	0	0	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel} + \partial\partial\mathcal{X}$	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel}$
$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel} + \partial^{\dagger}\partial$	0	0	0	0	0	0	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel} + \partial\partial\mathcal{X}$	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel}$
$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel} + \partial^{\dagger}\partial$	0	0	0	0	0	0	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel} + \partial\partial\mathcal{X}$	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel}$
$\chi_{g\partial} + \mathbb{E}^{\dagger}\mathcal{W}_5\hat{\mathcal{I}}^{\dagger}$	0	0	0	0	0	0	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel} + \partial\partial\mathcal{X}$	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel}$
$\chi_{g\partial} + \mathbb{E}^{\dagger}\mathcal{W}_5\hat{\mathcal{I}}^{\dagger}$	0	0	0	0	0	0	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel} + \partial\partial\mathcal{X}$	$\hat{\mathcal{I}}^{\dagger}\mathcal{W}_5^{\parallel}$

	$2^+h \parallel_{\alpha\beta}$	$2^+\mathcal{A}_a \parallel_{\alpha\beta}$	$2^+\mathcal{A}_s \parallel_{\alpha\beta}$	$2^+\mathcal{A}_s^\perp \parallel_{\alpha\beta}$	$2^+\mathcal{A}_a \parallel_{\alpha\beta\chi}$	$2^+\mathcal{A}_s \parallel_{\alpha\beta\chi}$
$2^+h \uparrow^{\alpha\beta}$	$2c_2$	0	0	0	0	0
$2^+\mathcal{A}_a \uparrow^{\alpha\beta}$	0	0	0	0	0	0
$2^+\mathcal{A}_s \uparrow^{\alpha\beta}$	0	0	0	0	0	0
$2^+\mathcal{A}_s^\perp \uparrow^{\alpha\beta}$	0	0	0	0	0	0
$2^+\mathcal{A}_a \uparrow^{\alpha\beta\chi}$	0	0	0	0	0	0
$2^+\mathcal{A}_s \uparrow^{\alpha\beta\chi}$	0	0	0	0	0	0

	0^+h^\perp	0^+
$0^+\mathcal{J}_\perp \uparrow$	c_2	$-\sqrt{3}$
$0^+h^\perp \uparrow$	$-\sqrt{3}c_2$	0
$0^+\mathcal{A}_a \uparrow$	0	0
$0^+\mathcal{A}_s \uparrow$	0	0
$0^+\mathcal{A}_s^\perp \uparrow$	0	0
$0^+\mathcal{A}_a \uparrow$	0	0

$$\begin{array}{l}
S = \int \int \int \int (\mathcal{A}^{a\beta\chi} \mathcal{W}_{a\beta\chi} + \mathcal{T}^{a\beta} h_{a\beta} + \\
2c_{\alpha} h_{a\beta} h^{\alpha\beta} - \\
c_{\alpha} h^{\alpha} h^{\beta} h^{\beta} + \\
c_{\alpha} \partial_{\beta} \mathcal{A}^{\alpha\beta} \partial_{\gamma} \mathcal{A}^{\gamma\delta} - \\
2c_{\alpha} \partial_{\beta} \mathcal{A}^{\alpha\beta} \partial_{\gamma} \mathcal{A}^{\gamma\delta} + \\
c_{\alpha} \partial_{\beta} \mathcal{A}^{a\beta} \partial_{\gamma} \mathcal{A}^{\gamma\delta}) [\\
t, x, y, z] d x d y d z d t
\end{array}$$

	0^+h^+	0^+h^{\parallel}	$0^+\mathcal{A}_a^{\parallel}$	$0^+\mathcal{A}_s^{\perp t}$	$0^+\mathcal{A}_s^{\parallel}$	$0^+\mathcal{A}_s^{\perp h}$	$0^+\mathcal{A}_a^{\parallel}$
0^+h^+	c_2	$-\sqrt{3}c_2$	0	0	0	0	0
0^+h^{\parallel}	$-\sqrt{3}c_2$	$-c_2$	0	0	0	0	0
$0^+\mathcal{A}_a^{\parallel}$	0	0	$6c_1k^2$	0	0	0	0
$0^+\mathcal{A}_s^{\perp t}$	0	0	0	0	0	0	0
$0^+\mathcal{A}_s^{\parallel}$	0	0	0	0	0	0	0
$0^+\mathcal{A}_s^{\perp h}$	0	0	0	0	0	0	0
$0^+\mathcal{A}_a^{\parallel}$	0	0	0	0	0	0	0

Massive and massless spectra

(No particles) (No particles)

Unitarity conditions

True