PSALTer results panel

Wave operator and propagator

	$1^{+}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$1^{+}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$1^{+}f^{\parallel}{}_{\alpha\beta}$	$1^{-}\mathcal{B}_{\alpha}$	$1^{-}\mathcal{A}^{\parallel}{}_{\alpha}$	$1^{-}\mathcal{A}^{\perp}{}_{\alpha}$	$1^{-}f^{\parallel}{}_{\alpha}$	$1^{-}f^{\perp}{}_{\alpha}$
$1^{+}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\frac{1}{6}(-6\lambda+6k^2(2r_3+r_5)+t_1+4t_2)$	$-\frac{6\lambda+t_1-2t_2}{3\sqrt{2}}$	$-\frac{i k(6\lambda+t_1-2t_2)}{3\sqrt{2}}$	0	0	0 0		0
$1^{+}\mathcal{A}^{\perp}\dagger^{\alpha\beta}$	$-\frac{6\lambda+t_1-2t_2}{3\sqrt{2}}$	$\frac{t_1+t_2}{3}$	$\frac{1}{3}i k(t_1+t_2)$	0	0	0 0		0
$1^{+}f^{\parallel}\dagger^{\alpha\beta}$	$\frac{i k(6\lambda+t_1-2t_2)}{3\sqrt{2}}$	$-\frac{1}{3}i k(t_1+t_2)$	$\frac{1}{3}k^2(t_1+t_2)$	0	0	0 0		0
$1^{-}\mathcal{B}\dagger^{\alpha}$	0	0	0	$\frac{1}{2}(-12\lambda+v+k^2(-4c_1+8(r_1+r_4+r_5)))$	$\frac{1}{6}(-12\lambda+v+k^2(-5c_1+12(r_1+r_4+r_5)))$	$\frac{2k^2c_1+12\lambda-v}{6\sqrt{2}}$	0	$\frac{1}{6}i k(2k^2c_1+12\lambda-v)$
$1^{-}\mathcal{A}^{\parallel}\dagger^{\alpha}$	0	0	0	$\frac{1}{6}(-12\lambda+v+k^2(-5c_1+12(r_1+r_4+r_5)))$	$\frac{1}{18}(-6\lambda+v-6k^2(c_1-3(r_1+r_4+r_5))+3t_1)$	$\frac{3k^2c_1+24\lambda-v+6t_1}{18\sqrt{2}}$	0	$\frac{1}{18}i k(3k^2c_1+24\lambda-v+6t_1)$
$1^{-}\mathcal{A}^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{2k^2c_1+12\lambda-v}{6\sqrt{2}}$	$\frac{3k^2c_1+24\lambda-v+6t_1}{18\sqrt{2}}$	$\frac{1}{36}(12\lambda+v+12t_1)$	0	$\frac{i k(12\lambda+v+12t_1)}{18\sqrt{2}}$
$1^{-}f^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0 0		0
$1^{-}f^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{1}{6}i k(2k^2c_1+12\lambda-v)$ -	$\frac{1}{18}i k(3k^2c_1+24\lambda-v+6t_1)$	$-\frac{i k(12\lambda+v+12t_1)}{18\sqrt{2}}$	0	$\frac{1}{18}k^2(12\lambda+v+12t_1)$

	$2^{+}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$2^{+}f^{\parallel}{}_{\alpha\beta}$	$2^{-}\mathcal{A}^{\parallel}{}_{\alpha\beta\chi}$
$2^{+}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\lambda+k^2(2r_1-2r_3+r_4)+\frac{t_1}{2}$	$-\frac{i k(2\lambda+t_1)}{\sqrt{2}}$	0
$2^{+}f^{\parallel}\dagger^{\alpha\beta}$	$\frac{i k(2\lambda+t_1)}{\sqrt{2}}$	$k^2(\lambda+t_1)$	0
$2^{-}\mathcal{A}^{\parallel}\dagger^{\alpha\beta\chi}$	0		$\lambda+k^2r_1+\frac{t_1}{2}$

$$S == \iiiint\Big(\phi\,\rho+\sigma^{\alpha\beta\chi}\mathcal{A}_{\alpha\beta\chi}+\tau^{\alpha\beta}f_{\alpha\beta}+\mathcal{T}^{\alpha}\mathcal{B}_{\alpha}-\frac{1}{18}v\big(\mathcal{A}^{\alpha\beta}{}_{\alpha}\mathcal{A}_{\beta}{}^{\chi}{}_{\chi}-9\mathcal{B}_{\alpha}\mathcal{B}^{\alpha}+18\mathcal{B}^{\alpha}\partial_{\alpha}\phi-6\mathcal{B}^{\alpha}\partial_{\alpha}f^{\beta}{}_{\beta}+6\mathcal{A}_{\alpha\beta}{}^{\beta}(\mathcal{B}^{\alpha}-\partial^{\alpha}\phi)-9\partial_{\alpha}\phi\partial^{\alpha}\phi+6\partial_{\alpha}f^{\beta}{}_{\beta}$$
$$\partial^{\alpha}\phi+6\mathcal{B}^{\alpha}\partial_{\beta}f_{\alpha}{}^{\beta}-6\partial^{\alpha}\phi\partial_{\beta}f_{\alpha}{}^{\beta}-2\mathcal{A}_{\alpha\chi}{}^{\chi}\partial_{\beta}f^{\alpha\beta}+2\mathcal{A}_{\beta\chi}{}^{\chi}\partial^{\beta}f^{\alpha}{}_{\alpha}-\partial_{\beta}f^{\chi}{}_{\chi}\partial^{\beta}f^{\alpha}{}_{\alpha}-\partial_{\beta}f^{\alpha\beta}\partial_{\chi}f_{\alpha}{}^{\chi}+2\partial^{\beta}f^{\alpha}{}_{\alpha}\partial_{\chi}f_{\beta}{}^{\chi}\big)+\frac{1}{6}\lambda\big($$
$$(8\mathcal{A}^{\alpha\beta}{}_{\alpha}\mathcal{A}_{\beta\chi}{}^{\chi}+24\mathcal{A}_{\alpha}{}^{\alpha\beta}\mathcal{A}_{\alpha\beta}{}^{\beta}-36\mathcal{B}_{\alpha}\mathcal{B}^{\alpha}-36\partial_{\alpha}\mathcal{B}^{\alpha}-72\phi\partial_{\alpha}\mathcal{B}^{\alpha}+12f^{\alpha\beta}\partial_{\beta}\mathcal{A}_{\alpha\chi}{}^{\chi}-12\partial_{\beta}\mathcal{A}^{\alpha\beta}-24\phi\partial_{\beta}\mathcal{A}^{\alpha\beta}-4\mathcal{A}_{\alpha\chi}{}^{\chi}\partial_{\beta}f^{\alpha\beta}-$$
$$24f^{\alpha\beta}\partial_{\beta}\mathcal{B}_{\alpha}+24f^{\alpha}{}_{\alpha}\partial_{\beta}\mathcal{B}^{\beta}+4\mathcal{A}_{\beta\chi}{}^{\chi}\partial^{\beta}f^{\alpha}{}_{\alpha}-2\partial_{\beta}f^{\chi}{}_{\chi}\partial^{\beta}f^{\alpha}{}_{\alpha}-12f^{\alpha}{}_{\alpha}\partial_{\chi}\mathcal{A}_{\beta}{}^{\beta\chi}-2\partial_{\beta}f^{\alpha\beta}\partial_{\chi}f_{\alpha}{}^{\chi}+12f^{\alpha\beta}\partial_{\chi}\mathcal{A}_{\alpha\beta}{}^{\chi}+4\partial^{\beta}f^{\alpha}{}_{\alpha}$$
$$\partial_{\chi}f_{\beta}{}^{\chi}-6\partial_{\alpha}f_{\beta\chi}\partial^{\chi}f^{\alpha\beta}-3\partial_{\alpha}f_{\chi\beta}\partial^{\chi}f^{\alpha\beta}+3\partial_{\beta}f_{\alpha\chi}\partial^{\chi}f^{\alpha\beta}+3\partial_{\chi}f_{\alpha\beta}\partial^{\chi}f^{\alpha\beta}+3\partial_{\chi}f_{\beta\alpha}\partial^{\chi}f^{\alpha\beta}+12\mathcal{A}_{\alpha\chi\beta}(\mathcal{A}^{\alpha\beta\chi}+\partial^{\chi}f^{\alpha\beta})\big)+$$
$$\frac{1}{6}t_2\big((4\mathcal{A}_{\beta\chi\alpha}+2\partial_{\alpha}f_{\beta\chi}-\partial_{\alpha}f_{\chi\beta}-\partial_{\beta}f_{\alpha\chi}+\partial_{\beta}f_{\chi\alpha}+\partial_{\chi}f_{\alpha\beta}-\partial_{\chi}f_{\beta\alpha})\partial^{\chi}f^{\alpha\beta}-4\mathcal{A}_{\alpha\chi\beta}(\mathcal{A}^{\alpha\beta\chi}+\partial^{\chi}f^{\alpha\beta})+2\mathcal{A}_{\alpha\beta\chi}(\mathcal{A}^{\alpha\beta\chi}+2\partial^{\chi}f^{\alpha\beta})\big)+$$
$$\frac{1}{3}t_1\big(\mathcal{A}^{\alpha\beta}{}_{\alpha}\mathcal{A}_{\beta\chi}{}^{\chi}-2\mathcal{A}_{\alpha\chi}{}^{\chi}\partial_{\beta}f^{\alpha\beta}+2\mathcal{A}_{\beta\chi}{}^{\chi}\partial^{\beta}f^{\alpha}{}_{\alpha}-\partial_{\beta}f^{\chi}{}_{\chi}\partial^{\beta}f^{\alpha}{}_{\alpha}-\partial_{\beta}f^{\alpha\beta}\partial_{\chi}f_{\alpha}{}^{\chi}+2\partial^{\beta}f^{\alpha}{}_{\alpha}\partial_{\chi}f_{\beta}{}^{\chi}-2\partial_{\alpha}f_{\beta\chi}\partial^{\chi}f^{\alpha\beta}-$$
$$2\partial_{\alpha}f_{\chi\beta}\partial^{\chi}f^{\alpha\beta}+\partial_{\beta}f_{\alpha\chi}\partial^{\chi}f^{\alpha\beta}+2\partial_{\chi}f_{\alpha\beta}\partial^{\chi}f^{\alpha\beta}+\partial_{\chi}f_{\beta\alpha}\partial^{\chi}f^{\alpha\beta}+\mathcal{A}_{\alpha\beta\chi}(\mathcal{A}^{\alpha\beta\chi}+2\partial^{\chi}f^{\alpha\beta})+\mathcal{A}_{\alpha\chi\beta}(\mathcal{A}^{\alpha\beta\chi}+4\partial^{\chi}f^{\alpha\beta})\big)+$$
$$r_5\big(4\partial_{\alpha}\mathcal{A}_{\beta\chi}{}^{\chi}\partial^{\beta}\mathcal{B}^{\alpha}-4\partial_{\alpha}\mathcal{B}_{\beta}\partial^{\beta}\mathcal{B}^{\alpha}-4\partial_{\beta}\mathcal{A}_{\alpha\chi}{}^{\chi}\partial^{\beta}\mathcal{B}^{\alpha}+4\partial_{\beta}\mathcal{B}_{\alpha}\partial^{\beta}\mathcal{B}^{\alpha}+4\partial^{\beta}\mathcal{B}^{\alpha}\partial_{\chi}\mathcal{A}_{\beta\alpha}{}^{\chi}+$$
$$\partial_{\beta}\mathcal{A}_{\chi\delta}{}^{\delta}\partial^{\chi}\mathcal{A}_{\alpha}{}^{\alpha\beta}-\partial_{\chi}\mathcal{A}_{\beta\delta}{}^{\delta}\partial^{\chi}\mathcal{A}_{\alpha}{}^{\alpha\beta}-\partial_{\alpha}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}_{\beta\chi}{}^{\delta}+2\partial^{\chi}\mathcal{A}_{\alpha}{}^{\alpha\beta}\partial_{\delta}\mathcal{A}_{\chi\beta}{}^{\delta}-2\partial^{\chi}\mathcal{A}_{\alpha}{}^{\alpha\beta}\partial_{\delta}\mathcal{A}_{\chi\beta}{}^{\delta}\big)-$$
$$\frac{1}{3}c_1\big(5\partial_{\alpha}\mathcal{B}_{\beta}\partial^{\beta}\mathcal{B}^{\alpha}-5\partial_{\beta}\mathcal{A}_{\alpha\chi}{}^{\chi}\partial^{\beta}\mathcal{B}^{\alpha}-6\partial_{\alpha}\mathcal{B}_{\beta}\partial^{\beta}\mathcal{B}^{\alpha}+6\partial_{\beta}\mathcal{B}_{\alpha}\partial^{\beta}\mathcal{B}^{\alpha}+3\partial^{\beta}\mathcal{B}^{\alpha}\partial_{\chi}\mathcal{A}_{\alpha\beta}{}^{\chi}+\partial_{\beta}f^{\alpha\beta}\partial^{\chi}f_{\alpha\chi}-$$
$$3\partial^{\beta}\mathcal{B}^{\alpha}\partial_{\chi}\mathcal{A}_{\beta\alpha}{}^{\chi}+2\partial^{\beta}\mathcal{B}^{\alpha}\partial_{\chi}\partial_{\beta}f_{\alpha}{}^{\chi}-2\partial^{\beta}\mathcal{B}^{\alpha}\partial_{\chi}\partial_{\alpha}f_{\beta}{}^{\chi}+\partial_{\beta}\mathcal{A}_{\chi\delta}{}^{\delta}\partial^{\chi}\mathcal{A}_{\alpha}{}^{\alpha\beta}-\partial_{\chi}\mathcal{A}_{\beta\delta}{}^{\delta}\partial^{\chi}\mathcal{A}_{\alpha}{}^{\alpha\beta}-$$
$$\partial_{\alpha}\mathcal{A}_{\chi\delta}{}^{\delta}\partial^{\chi}\mathcal{A}^{\alpha\beta}{}_{\beta}+\partial_{\chi}\mathcal{A}_{\alpha\delta}{}^{\delta}\partial^{\chi}\mathcal{A}^{\alpha\beta}{}_{\beta}+\partial^{\chi}\partial_{\beta}f^{\alpha\beta}\partial_{\delta}\mathcal{A}_{\chi\alpha}{}^{\delta}-\partial^{\chi}\mathcal{A}^{\alpha\beta}{}_{\alpha}\partial_{\delta}\mathcal{A}_{\chi\beta}{}^{\delta}\big)+$$
$$r_4\big(-4\partial_{\alpha}\mathcal{A}_{\beta\chi}{}^{\chi}\partial^{\beta}\mathcal{B}^{\alpha}+4\partial_{\alpha}\mathcal{B}_{\beta}\partial^{\beta}\mathcal{B}^{\alpha}-4\partial_{\beta}\mathcal{A}_{\alpha\chi}{}^{\chi}\partial^{\beta}\mathcal{B}^{\alpha}+4\partial_{\beta}\mathcal{B}_{\alpha}\partial^{\beta}\mathcal{B}^{\alpha}+4\partial^{\beta}\mathcal{B}^{\alpha}\partial_{\chi}\mathcal{A}_{\beta\alpha}{}^{\chi}+$$
$$8\partial_{\alpha}\mathcal{B}^{\alpha}(2\partial_{\beta}\mathcal{B}^{\beta}+\partial_{\chi}\mathcal{A}^{\beta\chi}{}_{\beta})-\partial_{\beta}\mathcal{A}_{\chi\delta}{}^{\delta}\partial^{\chi}\mathcal{A}^{\alpha\beta}{}_{\alpha}-\partial_{\chi}\mathcal{A}_{\beta\delta}{}^{\delta}\partial^{\chi}\mathcal{A}^{\alpha\beta}{}_{\alpha}-\partial_{\alpha}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}_{\beta\chi}{}^{\delta}+2\partial^{\chi}\mathcal{A}^{\alpha\beta}{}_{\alpha}\partial_{\delta}\mathcal{A}_{\beta\chi}{}^{\delta}-$$
$$\partial_{\alpha}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}_{\chi\beta}{}^{\delta}+2\partial^{\chi}\mathcal{A}^{\alpha\beta}{}_{\alpha}\partial_{\delta}\mathcal{A}_{\chi\beta}{}^{\delta}\big)+\frac{1}{3}r_2\big(4\partial_{\beta}\mathcal{A}_{\alpha\chi\delta}-2\partial_{\beta}\mathcal{A}_{\alpha\delta\chi}-\partial_{\chi}\mathcal{A}_{\alpha\beta\delta}+\partial_{\delta}\mathcal{A}_{\alpha\beta\chi}-2\partial_{\delta}\mathcal{A}_{\alpha\chi\beta}\big)\partial^{\delta}\mathcal{A}^{\alpha\beta\chi}-$$
$$4r_3\big(\partial_{\alpha}\mathcal{B}^{\alpha}\partial_{\beta}\mathcal{B}^{\beta}-2\partial_{\alpha}\mathcal{B}^{\alpha}\partial_{\chi}\mathcal{A}_{\beta}{}^{\beta\chi}+2\partial_{\alpha}\mathcal{B}_{\beta}\partial^{\beta}\mathcal{B}^{\alpha}+2\partial^{\beta}\mathcal{B}^{\alpha}\partial_{\chi}\mathcal{A}_{\beta\alpha}{}^{\chi}+\partial_{\beta}\mathcal{A}_{\chi\delta}{}^{\delta}\partial^{\chi}\mathcal{A}_{\alpha}{}^{\alpha\beta}\big)+$$
$$\frac{2}{3}r_1\big(6\partial_{\alpha}\mathcal{B}_{\beta}\partial^{\beta}\mathcal{B}^{\alpha}-6\partial_{\alpha}\mathcal{A}_{\beta\chi}{}^{\chi}\partial^{\beta}\mathcal{B}^{\alpha}+6\partial_{\beta}\mathcal{B}_{\alpha}\partial^{\beta}\mathcal{B}^{\alpha}-6\partial_{\beta}\mathcal{A}_{\alpha\chi}{}^{\chi}\partial^{\beta}\mathcal{B}^{\alpha}+$$
$$6\partial^{\beta}\mathcal{B}^{\alpha}\partial_{\chi}\mathcal{A}_{\beta\alpha}{}^{\chi}+6\partial^{\beta}\mathcal{B}^{\alpha}\partial_{\chi}\mathcal{A}_{\alpha\beta}{}^{\chi}-2\partial_{\beta}\mathcal{A}_{\chi\delta}{}^{\delta}\partial^{\chi}\mathcal{A}_{\alpha}{}^{\alpha\beta}+\partial_{\beta}\mathcal{A}_{\alpha\chi\delta}\partial^{\delta}\mathcal{A}^{\alpha\beta\chi}+2\partial_{\beta}\mathcal{A}_{\chi\delta\alpha}\partial^{\delta}\mathcal{A}^{\alpha\beta\chi}-$$
$$\partial_{\chi}\mathcal{A}_{\alpha\beta\delta}\partial^{\delta}\mathcal{A}^{\alpha\beta\chi}+\partial_{\delta}\mathcal{A}_{\alpha\beta\chi}\partial^{\delta}\mathcal{A}^{\alpha\beta\chi}+\partial_{\delta}\mathcal{A}_{\alpha\chi\beta}\partial^{\delta}\mathcal{A}^{\alpha\beta\chi}\big)\Big)[t,x,y,z]\,dt\,dx\,dy\,dz$$

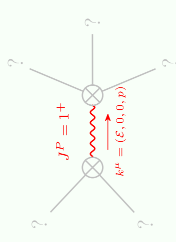
	$2^{+}\sigma^{\parallel}{}_{\alpha\beta}$	$2^{+}\tau^{\parallel}{}_{\alpha\beta}$	$2^{-}\sigma^{\parallel}{}_{\alpha\beta\chi}$
$2^{+}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{k^2(\lambda+t_1)}{k^4(2r_1-2r_3+r_4)(\lambda+t_1)-\frac{1}{2}k^2\lambda(2\lambda+t_1)}$	$\frac{i\sqrt{2}(2\lambda+t_1)}{2k^3(2r_1-2r_3+r_4)(\lambda+t_1)-k\lambda(2\lambda+t_1)}$	0
$2^{+}\tau^{\parallel}\dagger^{\alpha\beta}$	$-\frac{i\sqrt{2}(2\lambda+t_1)}{2k^3(2r_1-2r_3+r_4)(\lambda+t_1)-k\lambda(2\lambda+t_1)}$	$\frac{\lambda+k^2(2r_1-2r_3+r_4)+\frac{t_1}{2}}{k^4(2r_1-2r_3+r_4)(\lambda+t_1)-\frac{1}{2}k^2\lambda(2\lambda+t_1)}$	0
$2^{-}\sigma^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$\frac{1}{\lambda+k^2r_1+\frac{t_1}{2}}$

	$0^{+}\mathcal{B}$	$0^{+}\phi$	$0^{+}\mathcal{A}^{\parallel}$	$0^{+}f^{\parallel}$	$0^{+}f^{\perp}$	$0^{-}\mathcal{A}^{\parallel}$
$0^{+}\mathcal{B}\dagger$	$-6\lambda+\frac{v}{2}+12k^2(r_1-r_3+2r_4)$	$\frac{1}{2}i k(12\lambda-v)$	$\frac{12\lambda-v-24k^2(r_1-r_3+2r_4)}{2\sqrt{6}}$	$-\frac{i k(12\lambda-v)}{2\sqrt{3}}$	0	0
$0^{+}\phi\dagger$	$k(-6i\lambda+\frac{i v}{2})$	$\frac{k^2 v}{2}$	$\frac{i k(12\lambda-v)}{2\sqrt{6}}$	$-\frac{k^2 v}{2\sqrt{3}}$	0	0
$0^{+}\mathcal{A}^{\parallel}\dagger$	$\frac{12\lambda-v-24k^2(r_1-r_3+2r_4)}{2\sqrt{6}}$	$-\frac{i k(12\lambda-v)}{2\sqrt{6}}$	$-\lambda+\frac{v}{12}+2k^2(r_1-r_3+2r_4)$	$\frac{i k(12\lambda-v)}{6\sqrt{2}}$	0	0
$0^{+}f^{\parallel}\dagger$	$\frac{i k(12\lambda-v)}{2\sqrt{3}}$	$-\frac{k^2 v}{2\sqrt{3}}$	$-\frac{i k(12\lambda-v)}{6\sqrt{2}}$	$\frac{k^2 v}{6}$	0	0
$0^{+}f^{\perp}\dagger$	0	0	0 0		0	0
$0^{-}\mathcal{A}^{\parallel}\dagger$	0	0	0 0		0	$-2\lambda+k^2r_2+t_2$

Spin-parity form	Covariant form	Multiplicities
$0^{+}\tau^{\perp}==0$	$\partial_{\beta}\partial_{\alpha}\tau^{\alpha\beta}==0$	1
$0^{+}\rho+0^{+}\tau^{\parallel}==0$	$\partial_{\alpha}\partial^{\alpha}\rho+\partial_{\beta}\partial^{\beta}\tau^{\alpha}{}_{\alpha}==\partial_{\beta}\partial_{\alpha}\tau^{\alpha\beta}$	1
$2\,0^{+}\sigma^{\parallel}+0^{+}\mathcal{T}==0$	$\partial_{\alpha}\mathcal{T}^{\alpha}==2\partial_{\beta}\sigma^{\alpha}{}_{\alpha}{}^{\beta}$	1
$2i\,k\,1^{-}\sigma^{\parallel\alpha}+1^{-}\tau^{\perp\alpha}-i\,k\,1^{-}\mathcal{T}^{\alpha}==0$	$\partial_{\chi}\partial^{\chi}\partial_{\beta}\tau^{\alpha\beta}+\partial_{\chi}\partial^{\chi}\partial_{\beta}\partial^{\alpha}\mathcal{T}^{\beta}+2\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi}==$ $\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau^{\beta\chi}+\partial_{\chi}\partial^{\chi}\partial_{\beta}\partial^{\beta}\mathcal{T}^{\alpha}+2(\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\beta}{}_{\beta}{}^{\chi}+\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta})$	3
$1^{-}\tau^{\parallel\alpha}==0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau^{\beta\chi}==\partial_{\chi}\partial^{\chi}\partial_{\beta}\tau^{\beta\alpha}$	3
$2\,1^{-}\sigma^{\parallel\alpha}==2\,1^{-}\sigma^{\perp\alpha}+1^{-}\mathcal{T}^{\alpha}$	$\partial_{\beta}\partial^{\alpha}\mathcal{T}^{\beta}==\partial_{\beta}\partial^{\beta}\mathcal{T}^{\alpha}+2(\partial_{\chi}\partial^{\alpha}\sigma^{\beta}{}_{\beta}{}^{\chi}+\partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta})$	3
$i\,k\,1^{+}\sigma^{\perp\alpha\beta}+1^{+}\tau^{\parallel\alpha\beta}==0$	$\partial_{\chi}\partial^{\alpha}\tau^{\beta\chi}+\partial_{\chi}\partial^{\beta}\tau^{\chi\alpha}+\partial_{\chi}\partial^{\chi}\tau^{\alpha\beta}+2\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta}+2\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta}==$ $\partial_{\chi}\partial^{\alpha}\tau^{\chi\beta}+\partial_{\chi}\partial^{\beta}\tau^{\alpha\chi}+\partial_{\chi}\partial^{\chi}\tau^{\beta\alpha}+2\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}$	3
Total expected gauge generators:		15

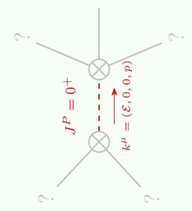
	$0^{+}\mathcal{T}$	$0^{+}\rho$	$0^{+}\sigma^{\parallel}$	$0^{+}\tau^{\parallel}$	$0^{+}\tau^{\perp}$	$0^{-}\sigma^{\parallel}$
$0^{+}\mathcal{T}\dagger$	$\frac{6v}{49(-12\lambda^2+\lambda v+2k^2v(r_1-r_3+2r_4))}$	$\frac{-36i\lambda+3iv}{28k(-12\lambda^2+\lambda v+2k^2v(r_1-r_3+2r_4))}$	$-\frac{\sqrt{6}v}{49(-12\lambda^2+\lambda v+2k^2v(r_1-r_3+2r_4))}$	$\frac{i\sqrt{3}(12\lambda-v)}{28k(-12\lambda^2+\lambda v+2k^2v(r_1-r_3+2r_4))}$	0	0
$0^{+}\rho\dagger$	$\frac{3i(12\lambda-v)}{28k(-12\lambda^2+\lambda v+2k^2v(r_1-r_3+2r_4))}$	$\frac{3(-12\lambda+v+24k^2(r_1-r_3+2r_4))}{32k^2(-12\lambda^2+\lambda v+2k^2v(r_1-r_3+2r_4))}$	$-\frac{i(36\lambda-3v)}{28\sqrt{6}k(-12\lambda^2+\lambda v+2k^2v(r_1-r_3+2r_4))}$	$-\frac{\sqrt{3}(-12\lambda+v+24k^2(r_1-r_3+2r_4))}{32k^2(-12\lambda^2+\lambda v+2k^2v(r_1-r_3+2r_4))}$	0	0
$0^{+}\sigma^{\parallel}\dagger$	$\frac{\sqrt{6}v}{588\lambda^2-49v(\lambda+2k^2(r_1-r_3+2r_4))}$	$\frac{i\sqrt{\frac{3}{2}}(12\lambda-v)}{28k(-12\lambda^2+\lambda v+2k^2v(r_1-r_3+2r_4))}$	$\frac{v}{49(-12\lambda^2+\lambda v+2k^2v(r_1-r_3+2r_4))}$	$\frac{i}{56\sqrt{2}(\frac{k\lambda}{2}+\frac{k^3v(r_1-r_3+2r_4)}{-12\lambda+v})}$	0	0
$0^{+}\tau^{\parallel}\dagger$	$\frac{1}{-\frac{28ik\lambda}{\sqrt{3}}+\frac{56ik^3v(r_1-r_3+2r_4)}{\sqrt{3}(12\lambda-v)}}$	$\frac{\sqrt{3}(-12\lambda+v+24k^2(r_1-r_3+2r_4))}{32k^2(12\lambda^2-v(\lambda+2k^2(r_1-r_3+2r_4)))}$	$-\frac{i}{56\sqrt{2}(\frac{k\lambda}{2}+\frac{k^3v(r_1-r_3+2r_4)}{-12\lambda+v})}$	$\frac{-12\lambda+v+24k^2(r_1-r_3+2r_4)}{32k^2(-12\lambda^2+\lambda v+2k^2v(r_1-r_3+2r_4))}$	0	0
$0^{+}\tau^{\perp}\dagger$	0	0	0	0		0
$0^{-}\sigma^{\parallel}\dagger$	0	0	0	0	0	$\frac{1}{-2\lambda+k^2r_2+t_2}$

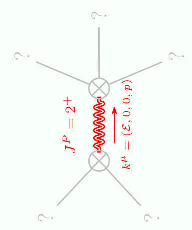
Massive and massless spectra



Massive particle

Pole residue:	$\frac{3(r_5t_1^2-t_1^2t_2+2r_5t_2^2-t_1t_2^2+4\lambda^2(6r_1+3r_3+t_1+t_2)+2\lambda(2r_5t_1+t_1^2+4r_3(t_1-2t_2)-4r_5t_2-t_2^2)+2r_3(t_1^2+2t_2^2))}{(2r_3+r_5)(t_1+t_2)(12\lambda^2+2r_5t_1+6\lambda(t_1-t_2)+2r_5t_2-3t_1t_2+4r_3(t_1+t_2))}>0$
Square mass:	$\frac{3(2\lambda+t_1)(2\lambda-t_2)}{2(2r_3+r_5)(t_1+t_2)}>0$
Spin:	1
Parity:	Even



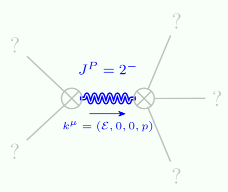


Massive particle

Pole residue:	$\frac{1}{56}(-\frac{7}{\lambda}+\frac{84}{v}+\frac{4}{r_1-r_3+2r_4})>0$
Square mass:	$\frac{12\lambda^2-\lambda v}{2vr_1-2vr_3+4vr_4}>0$
Spin:	0
Parity:	Even

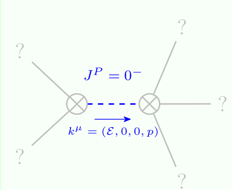
Massive particle

Pole residue:	$\frac{\lambda^2+(2r_1-2r_3+r_4)t_1+\lambda(4r_1-4r_3+2r_4+t_1)}{\lambda(2r_1-2r_3+r_4)(\lambda+t_1)}>0$
Square mass:	$\frac{\lambda(2\lambda+t_1)}{2(2r_1-2r_3+r_4)(\lambda+t_1)}>0$
Spin:	2
Parity:	Even



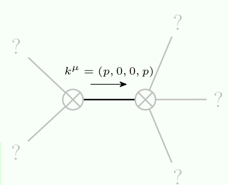
Massive particle

Pole residue:	$-\frac{1}{r_1}>0$
Square mass:	$-\frac{2\lambda+t_1}{2r_1}>0$
Spin:	2
Parity:	Odd



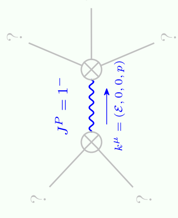
Massive particle

Pole residue:	$-\frac{1}{r_2}>0$
Square mass:	$\frac{2\lambda-t_2}{r_2}>0$
Spin:	0
Parity:	Odd



Massless particle

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



Massive particle

Pole residue:

$$\Big(792c_1^2\lambda-288c_1\lambda^2+21c_1^2v-24c_1\lambda v-3168c_1\lambda r_1+288\lambda^2r_1-84c_1vr_1+48\lambda vr_1+$$
$$2v^2r_1+2160\lambda r_1^2+180vr_1^2-3168c_1\lambda r_4+288\lambda^2r_4-84c_1vr_4+48\lambda vr_4+$$
$$2v^2r_4+4320\lambda r_1r_4+360vr_1r_4+2160\lambda r_4^2+180vr_4^2-3168c_1\lambda r_5+$$
$$288\lambda^2r_5-84c_1vr_5+48\lambda vr_5+2v^2r_5+4320\lambda r_1r_5+360vr_1r_5+4320\lambda r_4r_5+$$
$$360vr_4r_5+2160\lambda r_5^2+180vr_5^2+522c_1^2t_1-432c_1\lambda t_1-12c_1vt_1-2088c_1r_1t_1+$$
$$576\lambda r_1t_1+48vr_1t_1+2160r_1^2t_1-2088c_1r_4t_1+576\lambda r_4t_1+48vr_4t_1+$$
$$4320r_1r_4t_1+2160r_4^2t_1-2088c_1r_5t_1+576\lambda r_5t_1+48vr_5t_1+4320r_1r_5t_1+$$
$$4320r_4r_5t_1+2160r_5^2t_1-144c_1t_1^2+288r_1t_1^2+288r_4t_1^2+288r_5t_1^2+42c_1$$
$$\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$12\lambda\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$v\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$90r_1\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$90r_4\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$90r_5\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$12t_1\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}\Big)/$$
$$\Big(720c_1^2\lambda^2+60c_1^2\lambda v-2880c_1\lambda^2r_1-240c_1\lambda vr_1+1440\lambda^2r_1^2+$$
$$240\lambda vr_1^2+10v^2r_1^2-2880c_1\lambda^2r_4-240c_1\lambda vr_4+2880\lambda^2r_1r_4+$$
$$480\lambda vr_1r_4+20v^2r_1r_4+1440\lambda^2r_4^2+240\lambda vr_4^2+10v^2r_4^2-$$
$$2880c_1\lambda^2r_5-240c_1\lambda vr_5+2880\lambda^2r_1r_5+480\lambda vr_1r_5+$$
$$20v^2r_1r_5+2880\lambda^2r_4r_5+480\lambda vr_4r_5+20v^2r_4r_5+1440\lambda^2r_5^2+$$
$$240\lambda vr_5^2+10v^2r_5^2+1080c_1^2\lambda t_1+30c_1^2vt_1-4320c_1\lambda r_1t_1-$$
$$120c_1vr_1t_1+2880\lambda r_1^2t_1+240vr_1^2t_1-4320c_1\lambda r_4t_1-120c_1vr_4t_1+$$
$$5760\lambda r_1r_4t_1+480vr_1r_4t_1+2880\lambda r_4^2t_1+240vr_4^2t_1-$$
$$4320c_1\lambda r_5t_1-120c_1vr_5t_1+5760\lambda r_1r_5t_1+480vr_1r_5t_1+$$
$$5760\lambda r_4r_5t_1+480vr_4r_5t_1+2880\lambda r_5^2t_1+240vr_5^2t_1+360c_1^2t_1^2-$$
$$1440c_1r_1t_1^2+1440r_1^2t_1^2-1440c_1r_4t_1^2+2880r_1r_4t_1^2+1440r_4^2t_1^2-$$
$$1440c_1r_5t_1^2+2880r_1r_5t_1^2+2880r_4r_5t_1^2+1440r_5^2t_1^2-\frac{7}{2}c_1^2$$
$$\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}+$$
$$60c_1\lambda\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$60\lambda r_1\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$5vr_1\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$60\lambda r_4\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$5vr_4\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$60\lambda r_5\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$5vr_5\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}+$$
$$30c_1t_1\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$60r_1t_1\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$60r_4t_1\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}-$$
$$60r_5t_1\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}\Big)>0$$

Square mass: $-\frac{12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1)+\sqrt{-12c_1^2(12\lambda-v)(2\lambda+t_1)+(12c_1(2\lambda+t_1)-2(r_1+r_4+r_5)(12\lambda+v+12t_1))^2}}{2c_1^2}>0$

Spin: 1

Parity: Odd

Unitarity conditions

(Timeout after 10 seconds)