PSALTer results panel

Wave operator and propagator

	$1^{+}\sigma^{\parallel}{}_{\alpha\beta}$	$1^{+}\sigma^{\perp}{}_{\alpha\beta}$	$1^{+}\tau^{\parallel}{}_{\alpha\beta}$	$1^{-}\sigma^{\parallel}{}_{\alpha}$	$1^{-}\sigma^{\perp}{}_{\alpha}$	$1^{-}\tau^{\parallel}{}_{\alpha}$	$1^{-}\tau^{\perp}{}_{\alpha}$
$1^{+}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{8(2\beta_1-\beta_2)}{16(\beta_1-\beta_2)(2\beta_1+\beta_2)+4(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1-\beta_2)k^2-4\beta_1(\mathcal{M}_{Pl}^2)+10\beta_2(\mathcal{M}_{Pl}^2)-(\mathcal{M}_{Pl}^2)^2}$	$-\frac{2\sqrt{2}(4\beta_1-6\beta_2+(\mathcal{M}_{Pl}^2))}{(1+k^2)(16(\beta_1-\beta_2)(2\beta_1+\beta_2)+4(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1-\beta_2)k^2-4\beta_1(\mathcal{M}_{Pl}^2)+10\beta_2(\mathcal{M}_{Pl}^2)-(\mathcal{M}_{Pl}^2)^2)}$	$-\frac{2i\sqrt{2}k(4\beta_1-6\beta_2+(\mathcal{M}_{Pl}^2))}{(1+k^2)(16(\beta_1-\beta_2)(2\beta_1+\beta_2)+4(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1-\beta_2)k^2-4\beta_1(\mathcal{M}_{Pl}^2)+10\beta_2(\mathcal{M}_{Pl}^2)-(\mathcal{M}_{Pl}^2)^2)}$	0	0	0	0
$1^{+}\sigma^{\perp}\dagger^{\alpha\beta}$	$\frac{2\sqrt{2}(4\beta_1-6\beta_2+(\mathcal{M}_{Pl}^2))}{(1+k^2)(-16(\beta_1-\beta_2)(2\beta_1+\beta_2)-4(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1-\beta_2)k^2+4\beta_1(\mathcal{M}_{Pl}^2)-10\beta_2(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2)}$	$\frac{2(12\beta_1-10\beta_2+2(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)k^2+(\mathcal{M}_{Pl}^2))}{(1+k^2)^2(16(\beta_1-\beta_2)(2\beta_1+\beta_2)+4(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1-\beta_2)k^2-4\beta_1(\mathcal{M}_{Pl}^2)+10\beta_2(\mathcal{M}_{Pl}^2)-(\mathcal{M}_{Pl}^2)^2)}$	$\frac{2ik(12\beta_1-10\beta_2+2(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)k^2+(\mathcal{M}_{Pl}^2))}{(1+k^2)^2(16(\beta_1-\beta_2)(2\beta_1+\beta_2)+4(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1-\beta_2)k^2-4\beta_1(\mathcal{M}_{Pl}^2)+10\beta_2(\mathcal{M}_{Pl}^2)-(\mathcal{M}_{Pl}^2)^2)}$	0	0	0	0
$1^{+}\tau^{\parallel}\dagger^{\alpha\beta}$	$-\frac{2i\sqrt{2}k(4\beta_1-6\beta_2+(\mathcal{M}_{Pl}^2))}{(1+k^2)(-16(\beta_1-\beta_2)(2\beta_1+\beta_2)-4(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1-\beta_2)k^2+4\beta_1(\mathcal{M}_{Pl}^2)-10\beta_2(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2)}$	$\frac{2ik(12\beta_1-10\beta_2+2(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)k^2+(\mathcal{M}_{Pl}^2))}{(1+k^2)^2(-16(\beta_1-\beta_2)(2\beta_1+\beta_2)-4(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1-\beta_2)k^2+4\beta_1(\mathcal{M}_{Pl}^2)-10\beta_2(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2)}$	$\frac{2k^2(12\beta_1-10\beta_2+2(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)k^2+(\mathcal{M}_{Pl}^2))}{(1+k^2)^2(16(\beta_1-\beta_2)(2\beta_1+\beta_2)+4(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1-\beta_2)k^2-4\beta_1(\mathcal{M}_{Pl}^2)+10\beta_2(\mathcal{M}_{Pl}^2)-(\mathcal{M}_{Pl}^2)^2)}$	0	0	0	0
$1^{-}\sigma^{\parallel}\dagger^{\alpha}$	0	0	0	$4\left(\frac{1}{12\beta_1+6\beta_2-3(\mathcal{M}_{Pl}^2)}+\frac{1}{6\beta_1+3(\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))+\frac{k^2\xi}{8}}\right)$	$\frac{4\sqrt{2}(72\beta_3+36(\mathcal{M}_{Pl}^2)+k^2\xi)}{3(1+2k^2)(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))(24(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))+k^2\xi)}$	0	$\frac{8ik(72\beta_3+36(\mathcal{M}_{Pl}^2)+k^2\xi)}{3(1+2k^2)(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))(24(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))+k^2\xi)}$
$1^{-}\sigma^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{4\sqrt{2}(72\beta_3+36(\mathcal{M}_{Pl}^2)+k^2\xi)}{3(1+2k^2)(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))(24(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))+k^2\xi)}$	$\frac{8\left(\frac{1}{4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2)}+\frac{1}{8\beta_1+4(\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))+\frac{k^2\xi}{6}}\right)}{3(1+2k^2)^2}$	0	$\frac{8i\sqrt{2}k(18(4\beta_1+2\beta_2+4\beta_3+(\mathcal{M}_{Pl}^2))+k^2\xi)}{3(1+2k^2)^2(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))(24(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))+k^2\xi)}$
$1^{-}\tau^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
$1^{-}\tau^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{8ik(72\beta_3+36(\mathcal{M}_{Pl}^2)+k^2\xi)}{3(1+2k^2)(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))(24(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))+k^2\xi)}$	$-\frac{8i\sqrt{2}(18k(4\beta_1+2\beta_2+4\beta_3+(\mathcal{M}_{Pl}^2))+k^3\xi)}{3(1+2k^2)^2(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))(24(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))+k^2\xi)}$	0	$\frac{16k^2\left(\frac{1}{4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2)}+\frac{1}{8\beta_1+4(\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))+\frac{k^2\xi}{6}}\right)}{3(1+2k^2)^2}$

	$1^{+}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$1^{+}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$1^{+}f^{\parallel}{}_{\alpha\beta}$	$1^{-}\mathcal{A}^{\parallel}{}_{\alpha}$	$1^{-}\mathcal{A}^{\perp}{}_{\alpha}$	$1^{-}f^{\parallel}{}_{\alpha}$	$1^{-}f^{\perp}{}_{\alpha}$
$1^{+}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\frac{1}{4}(12\beta_1-10\beta_2+2(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)k^2+(\mathcal{M}_{Pl}^2))$	$\frac{4\beta_1-6\beta_2+(\mathcal{M}_{Pl}^2)}{2\sqrt{2}}$	$\frac{ik(4\beta_1-6\beta_2+(\mathcal{M}_{Pl}^2))}{2\sqrt{2}}$	0	0 0		0
$1^{+}\mathcal{A}^{\perp}\dagger^{\alpha\beta}$	$\frac{4\beta_1-6\beta_2+(\mathcal{M}_{Pl}^2)}{2\sqrt{2}}$	$2\beta_1-\beta_2$	$i(2\beta_1-\beta_2)k$	0	0 0		0
$1^{+}f^{\parallel}\dagger^{\alpha\beta}$	$-\frac{ik(4\beta_1-6\beta_2+(\mathcal{M}_{Pl}^2))}{2\sqrt{2}}$	$-i(2\beta_1-\beta_2)k$	$(2\beta_1-\beta_2)k^2$	0	0 0		0
$1^{-}\mathcal{A}^{\parallel}\dagger^{\alpha}$	0	0	0	$\beta_1+\frac{\beta_2}{2}+\beta_3+\frac{(\mathcal{M}_{Pl}^2)}{4}+\frac{k^2\xi}{72}$	$-\frac{72\beta_3+36(\mathcal{M}_{Pl}^2)+k^2\xi}{72\sqrt{2}}$	0	$-\frac{1}{72}ik(72\beta_3+36(\mathcal{M}_{Pl}^2)+k^2\xi)$
$1^{-}\mathcal{A}^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{72\beta_3+36(\mathcal{M}_{Pl}^2)+k^2\xi}{72\sqrt{2}}$	$\beta_1+\frac{\beta_2+\beta_3}{2}+\frac{k^2\xi}{144}$	0	$\frac{ik(72(2\beta_1+\beta_2+\beta_3)+k^2\xi)}{72\sqrt{2}}$
$1^{-}f^{\parallel}\dagger^{\alpha}$	0	0	0	0	0 0	0	0
$1^{-}f^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{1}{72}ik(72\beta_3+36(\mathcal{M}_{Pl}^2)+k^2\xi)$	$-\frac{ik(72(2\beta_1+\beta_2+\beta_3)+k^2\xi)}{72\sqrt{2}}$	0	$(2\beta_1+\beta_2+\beta_3)k^2+\frac{k^4\xi}{72}$

	$2^{+}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$2^{+}f^{\parallel}{}_{\alpha\beta}$	$2^{-}\mathcal{A}^{\parallel}{}_{\alpha\beta\chi}$
$2^{+}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\frac{1}{4}(4\beta_1+2\beta_2+2(-3\alpha_2+\alpha_3-4\alpha_4+4\alpha_6)k^2-(\mathcal{M}_{Pl}^2))$	$-\frac{ik(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))}{2\sqrt{2}}$	0
$2^{+}f^{\parallel}\dagger^{\alpha\beta}$	$\frac{ik(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))}{2\sqrt{2}}$	$(2\beta_1+\beta_2)k^2$	0
$2^{-}\mathcal{A}^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$\beta_1+\frac{\beta_2}{2}-\alpha_2k^2-\frac{(\mathcal{M}_{Pl}^2)}{4}$

	$2^{+}\sigma^{\parallel}{}_{\alpha\beta}$	$2^{+}\tau^{\parallel}{}_{\alpha\beta}$	$2^{-}\sigma^{\parallel}{}_{\alpha\beta\chi}$
$2^{+}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{8}{4(-3\alpha_2+\alpha_3-4\alpha_4+4\alpha_6)k^2+(\mathcal{M}_{Pl}^2)\left(2-\frac{(\mathcal{M}_{Pl}^2)}{2\beta_1+\beta_2}\right)}$	$-\frac{2i\sqrt{2}(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))}{k(4(3\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1+\beta_2)k^2-2(2\beta_1+\beta_2)(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2)}$	0
$2^{+}\tau^{\parallel}\dagger^{\alpha\beta}$	$\frac{2i\sqrt{2}(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))}{k(2(2\beta_1+\beta_2)(2(3\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)k^2-(\mathcal{M}_{Pl}^2))+(\mathcal{M}_{Pl}^2)^2)}$	$-\frac{2(4\beta_1+2\beta_2+2(-3\alpha_2+\alpha_3-4\alpha_4+4\alpha_6)k^2-(\mathcal{M}_{Pl}^2))}{k^2(4(3\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1+\beta_2)k^2-2(2\beta_1+\beta_2)(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2)}$	0
$2^{-}\sigma^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$-\frac{4}{-4\beta_1-2\beta_2+4\alpha_2k^2+(\mathcal{M}_{Pl}^2)}$

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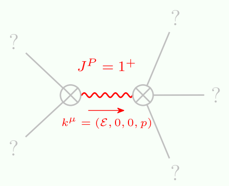
$$\iiiint(\mathcal{A}^{\alpha\beta\chi}\sigma_{\alpha\beta\chi}+f^{\alpha\beta}\tau(\Delta+\mathcal{K})_{\alpha\beta}-\tfrac{1}{2}(\mathcal{M}_{Pl}^2)(\mathcal{A}_{,\kappa\theta}\mathcal{A}'^{\theta\kappa}+\mathcal{A}'^{\theta}{}_{,}\mathcal{A}_{\theta\kappa}{}^{\kappa}+2f'^{\theta}\partial_\theta\mathcal{A}^{\kappa}{}_{,\kappa}-$$
$$2\partial_\theta\mathcal{A}'^{\theta}{}_{,}-2f'^{\theta}\partial_\kappa\mathcal{A}^{\kappa}{}_{,\theta}+2f'_{,}\partial_\kappa\mathcal{A}^{\theta\kappa}{}_{\theta})+$$
$$\beta_3(-\mathcal{A}'^{\theta}{}_{,}\mathcal{A}_{\theta\kappa}{}^{\kappa}+2\mathcal{A}^{\kappa}{}_{,\kappa}\partial_\theta f'^{\theta}-2\mathcal{A}_{\theta\kappa}{}^{\kappa}\partial^\theta f'_{,}+$$
$$\partial_\theta f^{\kappa}{}_{\kappa}\partial^\theta f'_{,}+\partial_\theta f'^{\theta}\partial_\kappa f^{\kappa}{}_{,}-2\partial^\theta f'_{,}\partial_\kappa f^{\kappa}{}_{\theta})+$$
$$2\alpha_4(4\partial_\iota\mathcal{A}_{\alpha\theta\kappa}-2\partial_\iota\mathcal{A}_{\alpha\kappa\theta}-\partial_\theta\mathcal{A}_{\alpha\kappa\iota}+\partial_\kappa\mathcal{A}_{\alpha\iota\theta}-2\partial_\kappa\mathcal{A}_{\alpha\theta\iota})\partial^\kappa\mathcal{A}^{\alpha\iota\theta}-$$
$$\alpha_2(\partial_\theta\mathcal{A}'^{\kappa}{}_{,\kappa}\partial^\theta\mathcal{A}^{\alpha\iota}{}_{\alpha}+\partial_\alpha\mathcal{A}^{\alpha\iota\theta}\partial_\kappa\mathcal{A}^{\kappa}{}_{,\theta}-2\partial^\theta\mathcal{A}^{\alpha\iota}{}_{\alpha}\partial_\kappa\mathcal{A}^{\kappa}{}_{,\theta}-$$
$$4\partial_\iota\mathcal{A}_{\alpha\theta\kappa}\partial^\kappa\mathcal{A}^{\alpha\iota\theta}+2\partial_\iota\mathcal{A}_{\alpha\kappa\theta}\partial^\kappa\mathcal{A}^{\alpha\iota\theta}+2\partial_\kappa\mathcal{A}_{\alpha\theta\iota}\partial^\kappa\mathcal{A}^{\alpha\iota\theta})+$$
$$2\beta_1(-\mathcal{A}_{,\kappa\theta}\mathcal{A}'^{\theta\kappa}+(2\mathcal{A}_{\theta\kappa\iota}-\partial_\iota f_{\kappa\theta}+\partial_\kappa f_{\iota\theta})\partial^\kappa f'^{\iota\theta}+$$
$$\mathcal{A}_{,\theta\kappa}(\mathcal{A}'^{\theta\kappa}+2\partial^\kappa f'^{\theta}))+$$
$$\beta_2((-2\mathcal{A}_{\theta\kappa\iota}-2\partial_\iota f_{\theta\kappa}+\partial_\theta f_{\iota\kappa}+\partial_\kappa f_{\theta\iota})\partial^\kappa f'^{\iota\theta}-\mathcal{A}_{,\theta\kappa}(\mathcal{A}'^{\theta\kappa}+2\partial^\kappa f'^{\theta})+$$
$$\mathcal{A}_{,\kappa\theta}(3\mathcal{A}'^{\theta\kappa}+4\partial^\kappa f'^{\theta}))+4\alpha_1\partial_\theta\mathcal{A}'^{\theta}{}_{,}\partial_\lambda\mathcal{A}^{\kappa\lambda}{}_{\kappa}+$$
$$\tfrac{1}{72}\xi(-2\partial_\lambda\mathcal{A}_{\kappa}{}^{\lambda}{}_{\kappa}\partial^\kappa\partial_\theta f'^{\theta}+2\partial_\kappa\mathcal{A}_{\kappa}{}^{\lambda}{}_{\lambda}\partial^\kappa\partial_\theta f'^{\theta}+\partial_\theta\mathcal{A}_{\kappa}{}^{\lambda}{}_{\lambda}(\partial^\kappa\mathcal{A}'^{\theta}{}_{,}+\partial^\kappa\partial^\theta f'_{,})-$$
$$\partial_\kappa\mathcal{A}_{\theta}{}^{\lambda}{}_{\lambda}(\partial^\kappa\mathcal{A}'^{\theta}{}_{,}+\partial^\kappa\partial^\theta f'_{,})-\partial^\kappa\partial_\theta f'^{\theta}\partial_\lambda\partial_\kappa f^{\lambda}{}_{,}+$$
$$\partial^\kappa\partial^\theta f'_{,}\partial_\lambda\partial_\theta f^{\lambda}{}_{\kappa}+\partial^\kappa\partial_\theta f'^{\theta}\partial_\lambda\partial_\kappa f'^{\lambda}-\partial^\kappa\partial^\theta f'_{,}\partial_\lambda\partial_\kappa f_{\theta}{}^{\lambda})-$$
$$\alpha_3(\partial_\kappa\mathcal{A}_{\lambda\zeta}{}^{\zeta}\partial^\lambda\mathcal{A}'^{\theta\kappa}{}_{\theta}+(\partial_\theta\mathcal{A}^{\theta\kappa\lambda}-2\partial^\lambda\mathcal{A}'^{\theta\kappa}{}_{\theta})\partial_\zeta\mathcal{A}_{\lambda,\kappa}{}^{\zeta})+$$
$$4\alpha_6\partial_\lambda\mathcal{A}_{\lambda\zeta\alpha}\partial^\zeta\mathcal{A}^{\alpha\iota\lambda})[t,x,y,z]\,dz\,dy\,dx\,dt$$

	$0^{+}\sigma^{\parallel}$	$0^{+}\tau^{\parallel}$	$0^{+}\tau^{\perp}$	$0^{-}\sigma^{\parallel}$
$0^{+}\sigma^{\parallel}\dagger$	$\frac{1}{2(3\alpha_1+\alpha_3-\alpha_4+\alpha_6)k^2+\frac{1}{2}(\mathcal{M}_{Pl}^2)\left(1-\frac{(\mathcal{M}_{Pl}^2)}{2\beta_1+\beta_2+3\beta_3}\right)}$	$-\frac{i\sqrt{2}(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))}{k(-4(3\alpha_1+\alpha_3-\alpha_4+\alpha_6)(2\beta_1+\beta_2+3\beta_3)k^2+(2\beta_1+\beta_2+3\beta_3)(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2)}$	0	0
$0^{+}\tau^{\parallel}\dagger$	$\frac{i\sqrt{2}(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))}{k((\mathcal{M}_{Pl}^2)^2+(2\beta_1+\beta_2+3\beta_3)(-4(3\alpha_1+\alpha_3-\alpha_4+\alpha_6)k^2+(\mathcal{M}_{Pl}^2)))}$	$-\frac{2\beta_1+\beta_2+3\beta_3+4(3\alpha_1+\alpha_3-\alpha_4+\alpha_6)k^2+(\mathcal{M}_{Pl}^2)}{k^2(-4(3\alpha_1+\alpha_3-\alpha_4+\alpha_6)(2\beta_1+\beta_2+3\beta_3)k^2+(2\beta_1+\beta_2+3\beta_3)(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2)}$	0	0
$0^{+}\tau^{\perp}\dagger$	0	0	0	0
$0^{-}\sigma^{\parallel}\dagger$	0	0	0	$\frac{2}{8\beta_1-8\beta_2+4(\alpha_2+3\alpha_4)k^2+(\mathcal{M}_{Pl}^2)}$

Spin-parity form	Covariant form	Multiplicities
$0^{+}\tau^{\perp}==0$	$\partial_\beta\partial_\alpha\tau(\Delta+\mathcal{K})^{\alpha\beta}==0$	1
$2ik\,1^{-}\sigma^{\perp\alpha}+1^{-}\tau^{\perp\alpha}==0$	$\partial_\chi\partial_\beta\partial^\alpha\tau(\Delta+\mathcal{K})^{\beta\chi}==\partial_\chi\partial^\chi\partial_\beta\tau(\Delta+\mathcal{K})^{\alpha\beta}+2\partial_\delta\partial^\delta\partial_\chi\partial_\beta\sigma^{\beta\alpha\chi}$	3
$1^{-}\tau^{\parallel\alpha}==0$	$\partial_\chi\partial_\beta\partial^\alpha\tau(\Delta+\mathcal{K})^{\beta\chi}==\partial_\chi\partial^\chi\partial_\beta\tau(\Delta+\mathcal{K})^{\beta\alpha}$	3
$ik\,1^{+}\sigma^{\perp\alpha\beta}+1^{+}\tau^{\parallel\alpha\beta}==0$	$\partial_\chi\partial^\alpha\tau(\Delta+\mathcal{K})^{\beta\chi}+\partial_\chi\partial^\beta\tau(\Delta+\mathcal{K})^{\chi\alpha}+\partial_\chi\partial^\chi\tau(\Delta+\mathcal{K})^{\alpha\beta}+2\partial_\delta\partial_\chi\partial^\alpha\sigma^{\chi\beta\delta}+2\partial_\delta\partial^\delta\partial_\chi\sigma^{\chi\alpha\beta}==\partial_\chi\partial^\alpha\tau(\Delta+\mathcal{K})^{\chi\beta}+\partial_\chi\partial^\beta\tau(\Delta+\mathcal{K})^{\alpha\chi}+\partial_\chi\partial^\chi\tau(\Delta+\mathcal{K})^{\beta\alpha}+2\partial_\delta\partial_\chi\partial^\beta\sigma^{\chi\alpha\delta}$	3
Total expected gauge generators:		10

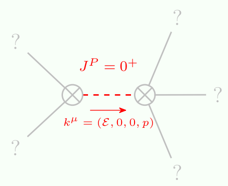
	$0^{+}\mathcal{A}^{\parallel}$	$0^{+}f^{\parallel}$	$0^{+}f^{\perp}$	$0^{-}\mathcal{A}^{\parallel}$
$0^{+}\mathcal{A}^{\parallel}\dagger$	$\frac{1}{2}(2\beta_1+\beta_2+3\beta_3+4(3\alpha_1+\alpha_3-\alpha_4+\alpha_6)k^2+(\mathcal{M}_{Pl}^2))$	$-\frac{ik(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))}{\sqrt{2}}$	0	0
$0^{+}f^{\parallel}\dagger$	$\frac{ik(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))}{\sqrt{2}}$	$(2\beta_1+\beta_2+3\beta_3)k^2$	0	0
$0^{+}f^{\perp}\dagger$	0	0 0		0
$0^{-}\mathcal{A}^{\parallel}\dagger$	0	0 0		$4\beta_1-4\beta_2+2(\alpha_2+3\alpha_4)k^2+\frac{(\mathcal{M}_{Pl}^2)}{2}$

Massive and massless spectra



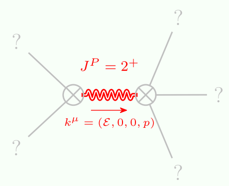
Massive particle

Pole residue:	$(\alpha_2(48\beta_1^2-80\beta_1\beta_2+44\beta_2^2+8\beta_1(\mathcal{M}_{Pl}^2)-12\beta_2(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2)-\alpha_3(48\beta_1^2-80\beta_1\beta_2+44\beta_2^2+8\beta_1(\mathcal{M}_{Pl}^2)-12\beta_2(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2)+4\alpha_4(48\beta_1^2-80\beta_1\beta_2+44\beta_2^2+8\beta_1(\mathcal{M}_{Pl}^2)-12\beta_2(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2)-4\alpha_6(48\beta_1^2-80\beta_1\beta_2+44\beta_2^2+8\beta_1(\mathcal{M}_{Pl}^2)-12\beta_2(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2)-2(2\beta_1-\beta_2)(32\beta_1^2-16\beta_2^2+10\beta_2(\mathcal{M}_{Pl}^2)-(\mathcal{M}_{Pl}^2)^2-4\beta_1(4\beta_2+(\mathcal{M}_{Pl}^2)))))/((\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1-\beta_2)(8\alpha_2\beta_1-8\alpha_3\beta_1+32\alpha_4\beta_1-32\alpha_6\beta_1-32\beta_1^2-4\alpha_2\beta_2+4\alpha_3\beta_2-16\alpha_4\beta_2+16\alpha_6\beta_2+16\beta_1\beta_2+16\beta_2^2+4\beta_1(\mathcal{M}_{Pl}^2)-10\beta_2(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2))>0$
Square mass:	$\frac{-32\beta_1^2+16\beta_2^2-10\beta_2(\mathcal{M}_{Pl}^2)+(\mathcal{M}_{Pl}^2)^2+4\beta_1(4\beta_2+(\mathcal{M}_{Pl}^2))}{4(\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1-\beta_2)}>0$
Spin:	1
Parity:	Even



Massive particle

Pole residue:	$(-4\alpha_4\beta_1+4\alpha_6\beta_1-2\alpha_4\beta_2+2\alpha_6\beta_2-6\alpha_4\beta_3+6\alpha_6\beta_3-2\alpha_4(\mathcal{M}_{Pl}^2)+2\alpha_6(\mathcal{M}_{Pl}^2)+2\beta_1(\mathcal{M}_{Pl}^2)+\beta_2(\mathcal{M}_{Pl}^2)+3\beta_3(\mathcal{M}_{Pl}^2)+6\alpha_1(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))+2\alpha_3(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2)))/(2(3\alpha_1+\alpha_3-\alpha_4+\alpha_6)(2\beta_1+\beta_2+3\beta_3)(\mathcal{M}_{Pl}^2))>0$
Square mass:	$\frac{(\mathcal{M}_{Pl}^2)(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))}{4(3\alpha_1+\alpha_3-\alpha_4+\alpha_6)(2\beta_1+\beta_2+3\beta_3)}>0$
Spin:	0
Parity:	Even

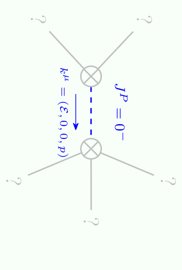


Massive particle

Pole residue:	$\frac{-3\alpha_2(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))+\alpha_3(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))-2(8\alpha_4\beta_1-8\alpha_6\beta_1+4\alpha_4\beta_2-4\alpha_6\beta_2-2\alpha_4(\mathcal{M}_{Pl}^2)+2\alpha_6(\mathcal{M}_{Pl}^2)+2\beta_1(\mathcal{M}_{Pl}^2)+\beta_2(\mathcal{M}_{Pl}^2))}{(3\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1+\beta_2)(\mathcal{M}_{Pl}^2)}>0$
Square mass:	$\frac{(4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2))(\mathcal{M}_{Pl}^2)}{4(3\alpha_2-\alpha_3+4\alpha_4-4\alpha_6)(2\beta_1+\beta_2)}>0$
Spin:	2
Parity:	Even

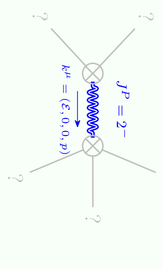
Pole residue:	$-\frac{1}{2(\alpha_2+3\alpha_4)}>0$
Square mass:	$-\frac{8\beta_1-8\beta_2+(\mathcal{M}_{Pl}^2)}{4(\alpha_2+3\alpha_4)}>0$
Spin:	0
Parity:	Odd

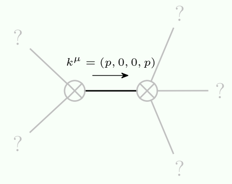
Massive particle



Pole residue:	$\frac{1}{\alpha_2}>0$
Square mass:	$\frac{4\beta_1+2\beta_2-(\mathcal{M}_{Pl}^2)}{4\alpha_2}>0$
Spin:	2
Parity:	Odd

Massive particle



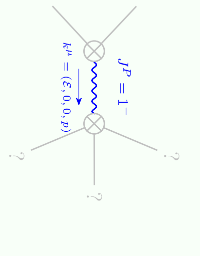


Massless particle

Pole residue:	$\frac{1}{(\mathcal{M}_{Pl}^2)}>0$
Polarisations:	2

Pole residue:	$-\frac{48(64\beta_1+32\beta_2+96\beta_3+32(\mathcal{M}_{Pl}^2)-\xi)}{(96\beta_1+48\beta_2+144\beta_3+48(\mathcal{M}_{Pl}^2)-\xi)\xi}>0$
Square mass:	$-\frac{24(2\beta_1+\beta_2+3\beta_3+(\mathcal{M}_{Pl}^2))}{\xi}>0$
Spin:	1
Parity:	Odd

Massive particle



Unitarity conditions

(Demonstrably impossible)