Particle spectrograph

Wave operator and propagator

	$\sigma^{\#1}_{1^+\alpha\beta}$	$\sigma^{\#2}_{1^+\alpha\beta}$	$\tau^{\#1}_{1^+\alpha\beta}$	$\sigma^{\#1}_{1^-\alpha}$	$\sigma^{\#2}_{1^-\alpha}$	$\tau^{\#1}_{1^-\alpha}$	$\tau^{\#2}_{1^-\alpha}$
$\sigma^{\#1}_{1^+}{}^\dagger{}^{\alpha\beta}$	$-\frac{1}{\frac{3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)}{16(\beta_1+2\beta_3)}+(\alpha_2+\alpha_5)k^2}$	$-\frac{2\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$-\frac{2i\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)k}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	0	0	0	0
$\sigma^{\#2}_{1^+}{}^\dagger{}^{\alpha\beta}$	$-\frac{2\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$\frac{6\alpha_0+8(\beta_1+8\beta_3+3(\alpha_2+\alpha_5)k^2)}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$\frac{2ik(3\alpha_0+4(\beta_1+8\beta_3+3(\alpha_2+\alpha_5)k^2))}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	0	0	0	0
$\tau^{\#1}_{1^+}{}^\dagger{}^{\alpha\beta}$	$\frac{2i\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)k}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$-\frac{2ik(3\alpha_0+4(\beta_1+8\beta_3+3(\alpha_2+\alpha_5)k^2))}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$\frac{2k^2(3\alpha_0+4(\beta_1+8\beta_3+3(\alpha_2+\alpha_5)k^2))}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	0	0	0	0
$\sigma^{\#1}_{1^-}{}^\dagger{}^{\alpha}$	0	0	0	$-\frac{1}{\frac{3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)}{8(2\beta_1+\beta_2)}+(\alpha_4+\alpha_5)k^2}$	$\frac{2\sqrt{2}(3\alpha_0-4\beta_1+4\beta_2)}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$	0	$\frac{4i(3\alpha_0-4\beta_1+4\beta_2)k}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$
$\sigma^{\#2}_{1^-}{}^\dagger{}^{\alpha}$	0	0	0	$\frac{2\sqrt{2}(3\alpha_0-4\beta_1+4\beta_2)}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$	$\frac{6\alpha_0+8(\beta_1+2\beta_2+3(\alpha_4+\alpha_5)k^2)}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$	0	$\frac{2i\sqrt{2}k(3\alpha_0+4(\beta_1+2\beta_2+3(\alpha_4+\alpha_5)k^2))}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$
$\tau^{\#1}_{1^-}{}^\dagger{}^{\alpha}$	0	0	0	0	0	0	0
$\tau^{\#2}_{1^-}{}^\dagger{}^{\alpha}$	0	0	0	$-\frac{4i(3\alpha_0-4\beta_1+4\beta_2)k}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$	$-\frac{2i\sqrt{2}k(3\alpha_0+4(\beta_1+2\beta_2+3(\alpha_4+\alpha_5)k^2))}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$	0	$\frac{4k^2(3\alpha_0+4(\beta_1+2\beta_2+3(\alpha_4+\alpha_5)k^2))}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$

Quadratic (free) action

$S ==$

$$\iiiint\Big(\tfrac{1}{6}\big(-3\alpha_0\,\omega^{\alpha\beta}{}_{\alpha}\,\omega_{\beta}{}^{\chi}{}_{\chi}+4\beta_1\,\omega^{\alpha\beta}{}_{\alpha}\,\omega_{\beta}{}^{\chi}{}_{\chi}-4\beta_2\,\omega^{\alpha\beta}{}_{\alpha}\,\omega_{\beta}{}^{\chi}{}_{\chi}+6\,f^{\alpha\beta}\,\tau_{\alpha\beta}+$$
$$6\,\omega^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi}-8\beta_1\,\omega_{\alpha}{}^{\chi}{}_{\chi}\,\partial_\beta f^{\alpha\beta}+8\beta_2\,\omega_{\alpha}{}^{\chi}{}_{\chi}\,\partial_\beta f^{\alpha\beta}-6\alpha_0\,f^{\alpha\beta}\,\partial_\beta\omega_{\alpha}{}^{\chi}{}_{\chi}+$$
$$6\alpha_0\,\partial_\beta\omega^{\alpha\beta}{}_{\alpha}+8\beta_1\,\omega_{\beta}{}^{\chi}{}_{\chi}\,\partial^\beta f^{\alpha}{}_{\alpha}-8\beta_2\,\omega_{\beta}{}^{\chi}{}_{\chi}\,\partial^\beta f^{\alpha}{}_{\alpha}-4\beta_1\,\partial_\beta f^{\chi}{}_{\chi}\partial^\beta f^{\alpha}{}_{\alpha}+$$
$$4\beta_2\,\partial_\beta f^{\chi}{}_{\chi}\partial^\beta f^{\alpha}{}_{\alpha}-4\beta_1\,\partial_\beta f^{\alpha\beta}\partial_\chi f_{\alpha}{}^{\chi}+4\beta_2\,\partial_\beta f^{\alpha\beta}\partial_\chi f_{\alpha}{}^{\chi}+$$
$$8\beta_1\,\partial^\beta f^{\alpha}{}_{\alpha}\partial_\chi f_{\beta}{}^{\chi}-8\beta_2\,\partial^\beta f^{\alpha}{}_{\alpha}\partial_\chi f_{\beta}{}^{\chi}+6\alpha_0\,f^{\alpha\beta}\,\partial_\chi\omega_{\alpha}{}^{\chi}{}_{\beta}-6\alpha_0\,f^{\alpha}{}_{\alpha}\,\partial_\chi\omega^{\beta\chi}{}_{\beta}+$$
$$8\beta_1\,\omega_{\beta\chi\alpha}\,\partial^\chi f^{\alpha\beta}+16\beta_3\,\omega_{\beta\chi\alpha}\,\partial^\chi f^{\alpha\beta}-8\beta_1\,\partial_\alpha f_{\beta\chi}\partial^\chi f^{\alpha\beta}+$$
$$8\beta_3\,\partial_\alpha f_{\beta\chi}\partial^\chi f^{\alpha\beta}-8\beta_1\,\partial_\alpha f_{\chi\beta}\partial^\chi f^{\alpha\beta}-4\beta_3\,\partial_\alpha f_{\chi\beta}\partial^\chi f^{\alpha\beta}+4\beta_1\,\partial_\beta f_{\alpha\chi}\partial^\chi f^{\alpha\beta}-$$
$$4\beta_3\,\partial_\beta f_{\alpha\chi}\partial^\chi f^{\alpha\beta}+8\beta_1\,\partial_\chi f_{\alpha\beta}\partial^\chi f^{\alpha\beta}+4\beta_3\,\partial_\chi f_{\alpha\beta}\partial^\chi f^{\alpha\beta}+4\beta_1\,\partial_\chi f_{\beta\alpha}\partial^\chi f^{\alpha\beta}-$$
$$4\beta_3\,\partial_\chi f_{\beta\alpha}\partial^\chi f^{\alpha\beta}+4(\beta_1+2\beta_3)\,\omega_{\alpha\beta\chi}\,(\omega^{\alpha\beta\chi}+2\partial^\chi f^{\alpha\beta})+$$
$$\omega_{\alpha\chi\beta}\,((-3\alpha_0+4\beta_1-16\beta_3)\,\omega^{\alpha\beta\chi}+16(\beta_1-\beta_3)\partial^\chi f^{\alpha\beta})+6\alpha_1\,\partial_\beta\omega_{\chi}{}^{\delta}{}_{\delta}\partial^\chi\omega^{\alpha\beta}{}_{\alpha}-$$
$$6\alpha_2\,\partial_\beta\omega_{\chi}{}^{\delta}{}_{\delta}\partial^\chi\omega^{\alpha\beta}{}_{\alpha}-6\alpha_4\,\partial_\beta\omega_{\chi}{}^{\delta}{}_{\delta}\partial^\chi\omega^{\alpha\beta}{}_{\alpha}+6\alpha_5\,\partial_\beta\omega_{\chi}{}^{\delta}{}_{\delta}\partial^\chi\omega^{\alpha\beta}{}_{\alpha}+$$
$$6\alpha_1\,\partial_\chi\omega_{\beta}{}^{\delta}{}_{\delta}\partial^\chi\omega^{\alpha\beta}{}_{\alpha}+6\alpha_2\,\partial_\chi\omega_{\beta}{}^{\delta}{}_{\delta}\partial^\chi\omega^{\alpha\beta}{}_{\alpha}-6\alpha_4\,\partial_\chi\omega_{\beta}{}^{\delta}{}_{\delta}\partial^\chi\omega^{\alpha\beta}{}_{\alpha}-$$
$$6\alpha_5\,\partial_\chi\omega_{\beta}{}^{\delta}{}_{\delta}\partial^\chi\omega^{\alpha\beta}{}_{\alpha}+6\alpha_1\,\partial_\alpha\omega^{\alpha\beta\chi}\partial_\delta\omega_{\beta}{}^{\delta}{}_{\chi}+6\alpha_2\,\partial_\alpha\omega^{\alpha\beta\chi}\partial_\delta\omega_{\beta}{}^{\delta}{}_{\chi}-$$
$$6\alpha_4\,\partial_\alpha\omega^{\alpha\beta\chi}\partial_\delta\omega_{\beta}{}^{\delta}{}_{\chi}-6\alpha_5\,\partial_\alpha\omega^{\alpha\beta\chi}\partial_\delta\omega_{\beta}{}^{\delta}{}_{\chi}-12\alpha_1\,\partial^\chi\omega^{\alpha\beta}{}_{\alpha}\partial_\delta\omega_{\beta}{}^{\delta}{}_{\chi}-$$
$$12\alpha_2\,\partial^\chi\omega^{\alpha\beta}{}_{\alpha}\partial_\delta\omega_{\beta}{}^{\delta}{}_{\chi}+12\alpha_4\,\partial^\chi\omega^{\alpha\beta}{}_{\alpha}\partial_\delta\omega_{\beta}{}^{\delta}{}_{\chi}+12\alpha_5\,\partial^\chi\omega^{\alpha\beta}{}_{\alpha}\partial_\delta\omega_{\beta}{}^{\delta}{}_{\chi}+$$
$$6\alpha_1\,\partial_\alpha\omega^{\alpha\beta\chi}\partial_\delta\omega_{\chi}{}^{\delta}{}_{\beta}-6\alpha_2\,\partial_\alpha\omega^{\alpha\beta\chi}\partial_\delta\omega_{\chi}{}^{\delta}{}_{\beta}-6\alpha_4\,\partial_\alpha\omega^{\alpha\beta\chi}\partial_\delta\omega_{\chi}{}^{\delta}{}_{\beta}+$$
$$6\alpha_5\,\partial_\alpha\omega^{\alpha\beta\chi}\partial_\delta\omega_{\chi}{}^{\delta}{}_{\beta}-12\alpha_1\,\partial^\chi\omega^{\alpha\beta}{}_{\alpha}\partial_\delta\omega_{\chi}{}^{\delta}{}_{\beta}+12\alpha_2\,\partial^\chi\omega^{\alpha\beta}{}_{\alpha}\partial_\delta\omega_{\chi}{}^{\delta}{}_{\beta}+$$
$$12\alpha_4\,\partial^\chi\omega^{\alpha\beta}{}_{\alpha}\partial_\delta\omega_{\chi}{}^{\delta}{}_{\beta}-12\alpha_5\,\partial^\chi\omega^{\alpha\beta}{}_{\alpha}\partial_\delta\omega_{\chi}{}^{\delta}{}_{\beta}+8\alpha_1\,\partial_\beta\omega^{\alpha\beta}{}_{\alpha}\partial_\delta\omega^{\chi\delta}{}_{\chi}-$$
$$12\alpha_4\,\partial_\beta\omega^{\alpha\beta}{}_{\alpha}\partial_\delta\omega^{\chi\delta}{}_{\chi}+4\alpha_6\,\partial_\beta\omega^{\alpha\beta}{}_{\alpha}\partial_\delta\omega^{\chi\delta}{}_{\chi}-8\alpha_1\,\partial_\beta\omega_{\alpha\chi\delta}\partial^\delta\omega^{\alpha\beta\chi}+$$
$$8\alpha_3\,\partial_\beta\omega_{\alpha\chi\delta}\partial^\delta\omega^{\alpha\beta\chi}+4\alpha_1\,\partial_\beta\omega_{\alpha\delta\chi}\partial^\delta\omega^{\alpha\beta\chi}-4\alpha_3\,\partial_\beta\omega_{\alpha\delta\chi}\partial^\delta\omega^{\alpha\beta\chi}+$$
$$8\alpha_1\,\partial_\beta\omega_{\chi\delta\alpha}\partial^\delta\omega^{\alpha\beta\chi}-12\alpha_2\,\partial_\beta\omega_{\chi\delta\alpha}\partial^\delta\omega^{\alpha\beta\chi}+4\alpha_3\,\partial_\beta\omega_{\chi\delta\alpha}\partial^\delta\omega^{\alpha\beta\chi}-$$
$$4\alpha_1\,\partial_\chi\omega_{\alpha\beta\delta}\partial^\delta\omega^{\alpha\beta\chi}-6\alpha_2\,\partial_\chi\omega_{\alpha\beta\delta}\partial^\delta\omega^{\alpha\beta\chi}-2\alpha_3\,\partial_\chi\omega_{\alpha\beta\delta}\partial^\delta\omega^{\alpha\beta\chi}+$$
$$4\alpha_1\,\partial_\delta\omega_{\alpha\beta\chi}\partial^\delta\omega^{\alpha\beta\chi}+6\alpha_2\,\partial_\delta\omega_{\alpha\beta\chi}\partial^\delta\omega^{\alpha\beta\chi}+2\alpha_3\,\partial_\delta\omega_{\alpha\beta\chi}\partial^\delta\omega^{\alpha\beta\chi}+$$
$$4\alpha_1\,\partial_\delta\omega_{\alpha\chi\beta}\partial^\delta\omega^{\alpha\beta\chi}-4\alpha_3\,\partial_\delta\omega_{\alpha\chi\beta}\partial^\delta\omega^{\alpha\beta\chi}\big)\Big)[t,x,y,z]\,dz\,dy\,dx\,dt$$

	$\omega^{\#1}_{1^+\alpha\beta}$	$\omega^{\#2}_{1^+\alpha\beta}$	$f^{\#1}_{1^+\alpha\beta}$	$\omega^{\#1}_{1^-\alpha}$	$\omega^{\#2}_{1^-\alpha}$	$f^{\#1}_{1^-\alpha}$	$f^{\#2}_{1^-\alpha}$
$\omega^{\#1}_{1^+}{}^\dagger{}^{\alpha\beta}$	$\frac{\alpha_0}{4}+\frac{1}{3}(\beta_1+8\beta_3)+(\alpha_2+\alpha_5)k^2$	$\frac{3\alpha_0-4\beta_1+16\beta_3}{6\sqrt{2}}$	$\frac{i(3\alpha_0-4\beta_1+16\beta_3)k}{6\sqrt{2}}$	0	0	0	0
$\omega^{\#2}_{1^+}{}^\dagger{}^{\alpha\beta}$	$\frac{3\alpha_0-4\beta_1+16\beta_3}{6\sqrt{2}}$	$\frac{2}{3}(\beta_1+2\beta_3)$	$\frac{2}{3}i(\beta_1+2\beta_3)k$	0	0	0	0
$f^{\#1}_{1^+}{}^\dagger{}^{\alpha\beta}$	$-\frac{i(3\alpha_0-4\beta_1+16\beta_3)k}{6\sqrt{2}}$	$-\frac{2}{3}i(\beta_1+2\beta_3)k$	$\frac{2}{3}(\beta_1+2\beta_3)k^2$	0	0	0	0
$\omega^{\#1}_{1^-}{}^\dagger{}^{\alpha}$	0	0	0	$\frac{\alpha_0}{4}+\frac{1}{3}(\beta_1+2\beta_2)+(\alpha_4+\alpha_5)k^2$	$-\frac{3\alpha_0-4\beta_1+4\beta_2}{6\sqrt{2}}$	0	$-\frac{1}{6}i(3\alpha_0-4\beta_1+4\beta_2)k$
$\omega^{\#2}_{1^-}{}^\dagger{}^{\alpha}$	0	0	0	$-\frac{3\alpha_0-4\beta_1+4\beta_2}{6\sqrt{2}}$	$\frac{1}{3}(2\beta_1+\beta_2)$	0	$\frac{1}{3}i\sqrt{2}(2\beta_1+\beta_2)k$
$f^{\#1}_{1^-}{}^\dagger{}^{\alpha}$	0	0	0	0	0	0	0
$f^{\#2}_{1^-}{}^\dagger{}^{\alpha}$	0	0	0	$\frac{1}{6}i(3\alpha_0-4\beta_1+4\beta_2)k$	$-\frac{1}{3}i\sqrt{2}(2\beta_1+\beta_2)k$	0	$\frac{2}{3}(2\beta_1+\beta_2)k^2$

	$\sigma^{\#1}_{0^+}$	$\tau^{\#1}_{0^+}$	$\tau^{\#2}_{0^+}$	$\sigma^{\#1}_{0^-}$
$\sigma^{\#1}_{0^+}{}^\dagger$	$-\frac{4\beta_2}{\alpha_0^2+2\alpha_0\beta_2-4(\alpha_4+\alpha_6)\beta_2k^2}$	$\frac{i\sqrt{2}(\alpha_0+2\beta_2)}{-\alpha_0(\alpha_0+2\beta_2)k+4(\alpha_4+\alpha_6)\beta_2k^3}$	0	0
$\tau^{\#1}_{0^+}{}^\dagger$	$\frac{i\sqrt{2}(\alpha_0+2\beta_2)}{\alpha_0(\alpha_0+2\beta_2)k-4(\alpha_4+\alpha_6)\beta_2k^3}$	$\frac{\frac{\alpha_0}{2}+\beta_2+(\alpha_4+\alpha_6)k^2}{-\frac{1}{2}\alpha_0(\alpha_0+2\beta_2)k^2+2(\alpha_4+\alpha_6)\beta_2k^4}$	0	0
$\tau^{\#2}_{0^+}{}^\dagger$	0	0	0	0
$\sigma^{\#1}_{0^-}{}^\dagger$	0	0	0	$\frac{2}{\alpha_0+8\beta_3+2(\alpha_2+\alpha_3)k^2}$

Source constraints/gauge generators

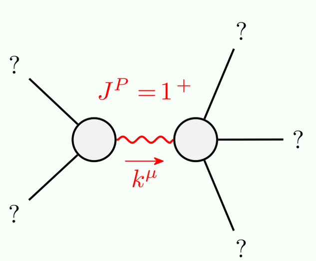
SO(3) irreps	Multiplicities
$\tau^{\#2}_{0^+}==0$	1
$\tau^{\#2\alpha}_{1^-}+2ik\,\sigma^{\#2\alpha}_{1^-}==0$	3
$\tau^{\#1\alpha}_{1^-}==0$	3
$\tau^{\#1\alpha\beta}_{1^+}+ik\,\sigma^{\#2\alpha\beta}_{1^+}==0$	3
Total constraints:	10

	$\omega^{\#1}_{0^+}$	$f^{\#1}_{0^+}$	$f^{\#2}_{0^+}$	$\omega^{\#1}_{0^-}$
$\omega^{\#1}_{0^+}{}^\dagger$	$\frac{\alpha_0}{2}+\beta_2+(\alpha_4+\alpha_6)k^2$	$-\frac{i(\alpha_0+2\beta_2)k}{\sqrt{2}}$	0	0
$f^{\#1}_{0^+}{}^\dagger$	$\frac{i(\alpha_0+2\beta_2)k}{\sqrt{2}}$	$2\beta_2k^2$	0	0
$f^{\#2}_{0^+}{}^\dagger$	0	0	0	0
$\omega^{\#1}_{0^-}{}^\dagger$	0	0	0	$\frac{\alpha_0}{2}+4\beta_3+(\alpha_2+\alpha_3)k^2$

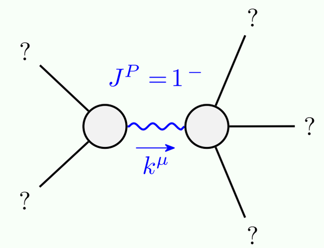
	$\sigma^{\#1}_{2^+\alpha\beta}$	$\tau^{\#1}_{2^+\alpha\beta}$	$\sigma^{\#1}_{2^-\alpha\beta\chi}$
$\sigma^{\#1}_{2^+}{}^\dagger{}^{\alpha\beta}$	$\frac{16\beta_1}{-\alpha_0^2+4\alpha_0\beta_1+16(\alpha_1+\alpha_4)\beta_1k^2}$	$\frac{2i\sqrt{2}(\alpha_0-4\beta_1)}{\alpha_0(\alpha_0-4\beta_1)k-16(\alpha_1+\alpha_4)\beta_1k^3}$	0
$\tau^{\#1}_{2^+}{}^\dagger{}^{\alpha\beta}$	$-\frac{2i\sqrt{2}(\alpha_0-4\beta_1)}{\alpha_0(\alpha_0-4\beta_1)k-16(\alpha_1+\alpha_4)\beta_1k^3}$	$\frac{2(\alpha_0-4(\beta_1+(\alpha_1+\alpha_4)k^2))}{k^2(\alpha_0^2-4\alpha_0\beta_1-16(\alpha_1+\alpha_4)\beta_1k^2)}$	0
$\sigma^{\#1}_{2^-}{}^\dagger{}^{\alpha\beta\chi}$	0	0	$\frac{1}{-\frac{\alpha_0}{4}+\beta_1+(\alpha_1+\alpha_2)k^2}$

	$\omega^{\#1}_{2^+\alpha\beta}$	$f^{\#1}_{2^+\alpha\beta}$	$\omega^{\#1}_{2^-\alpha\beta\chi}$
$\omega^{\#1}_{2^+}{}^\dagger{}^{\alpha\beta}$	$-\frac{\alpha_0}{4}+\beta_1+(\alpha_1+\alpha_4)k^2$	$\frac{i(\alpha_0-4\beta_1)k}{2\sqrt{2}}$	0
$f^{\#1}_{2^+}{}^\dagger{}^{\alpha\beta}$	$-\frac{i(\alpha_0-4\beta_1)k}{2\sqrt{2}}$	$2\beta_1k^2$	0
$\omega^{\#1}_{2^-}{}^\dagger{}^{\alpha\beta\chi}$	0	0	$-\frac{\alpha_0}{4}+\beta_1+(\alpha_1+\alpha_2)k^2$

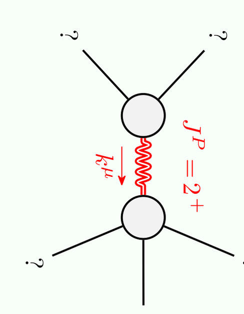
Massive and massless spectra



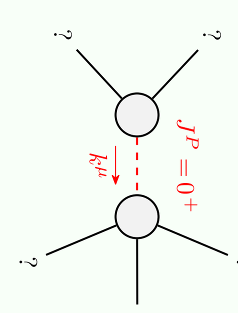
Massive particle	
Pole residue:	$(3(\alpha_0^2(3\alpha_2+3\alpha_5+2\beta_1+4\beta_3)-8\alpha_0(\beta_1^2+\alpha_2(\beta_1-4\beta_3)+\alpha_5(\beta_1-4\beta_3)-4\beta_3^2)+16(-4\beta_1\beta_3(\beta_1+2\beta_3)+\alpha_2(\beta_1^2+8\beta_3^2)+\alpha_5(\beta_1^2+8\beta_3^2))))/(2(\alpha_2+\alpha_5)(\beta_1+2\beta_3)(3\alpha_0^2-12\alpha_0(\beta_1-2\beta_3)+16(\alpha_5\beta_1+2\alpha_5\beta_3-6\beta_1\beta_3+\alpha_2(\beta_1+2\beta_3))))>0$
Polarisations:	3
Square mass:	$\frac{3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)}{16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)}>0$
Spin:	1
Parity:	Even



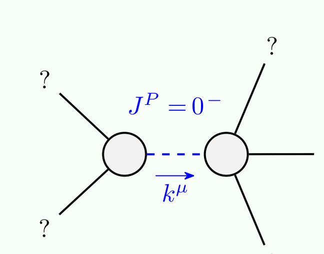
Massive particle	
Pole residue:	$-((3(\alpha_0^2(3\alpha_4+3\alpha_5+4\beta_1+2\beta_2)+4\alpha_0(-2\alpha_4\beta_1-2\alpha_5\beta_1-4\beta_1^2+2\alpha_4\beta_2+2\alpha_5\beta_2+\beta_2^2)+8(-2\beta_1\beta_2(2\beta_1+\beta_2)+\alpha_4(2\beta_1^2+\beta_2^2)+\alpha_5(2\beta_1^2+\beta_2^2))))/(2(\alpha_4+\alpha_5)(2\beta_1+\beta_2)(3\alpha_0^2+6\alpha_0(-2\beta_1+\beta_2)+4(2\alpha_5\beta_1+\alpha_5\beta_2-6\beta_1\beta_2+\alpha_4(2\beta_1+\beta_2)))))>0$
Polarisations:	3
Square mass:	$\frac{3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)}{8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)}>0$
Spin:	1
Parity:	Odd



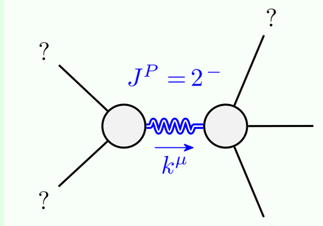
Massive particle	
Pole residue:	$-\frac{2}{\alpha_0}+\frac{\alpha_1+\alpha_4+2\beta_1}{2\alpha_1\beta_1+2\alpha_4\beta_1}>0$
Polarisations:	5
Square mass:	$\frac{\alpha_0(\alpha_0-4\beta_1)}{16(\alpha_1+\alpha_4)\beta_1}>0$
Spin:	2
Parity:	Even



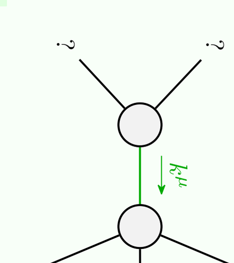
Massive particle	
Pole residue:	$\frac{1}{\alpha_0}+\frac{\alpha_4+\alpha_6+2\beta_2}{2\alpha_4\beta_2+2\alpha_6\beta_2}>0$
Polarisations:	1
Square mass:	$\frac{\alpha_0(\alpha_0+2\beta_2)}{4(\alpha_4+\alpha_6)\beta_2}>0$
Spin:	0
Parity:	Even



Massive particle	
Pole residue:	$-\frac{1}{\alpha_2+\alpha_3}>0$
Polarisations:	1
Square mass:	$-\frac{\alpha_0+8\beta_3}{2(\alpha_2+\alpha_3)}>0$
Spin:	0
Parity:	Odd



Massive particle	
Pole residue:	$-\frac{1}{\alpha_1+\alpha_2}>0$
Polarisations:	5
Square mass:	$\frac{\alpha_0-4\beta_1}{4(\alpha_1+\alpha_2)}>0$
Spin:	2
Parity:	Odd



Quadratic pole	
Pole residue:	$\frac{1}{\alpha_0}>0$
Polarisations:	2

Unitarity conditions

(Unitarity is demonstrably impossible)