Particle spectrograph

Wave operator and propagator

Wave c	per	ato	r a	nd	pro	ра	gator																			
		$\omega_{1}^{\#1}$	αβ		$\omega_{1}^{\#2}$	β	$f_{1}^{\#1}{}_{\alpha\beta}$		$\omega_1^{\scriptscriptstyle \sharp}$	‡1 - α		u	υ <mark>#</mark> 2 α	f	c#1 1 α	f_1^{3}	#2 L α						1.0			T
$\omega_{1}^{\sharp 1} \dagger^{lpha eta}$	k ² (2	$r_3 + r$	₅) + -	2 <i>t</i> ₂ 3	$\frac{\sqrt{2} t_2}{3}$	1 1 3	i √2 kt	2	(0			0		0		0		$\sigma_{0}^{\#1}$	0	0	0	$\frac{1}{k^2 r_2 + t_2}$	ω_{0}^{*1}	0	
$\omega_{\scriptscriptstyle 1}^{\scriptscriptstyle \#2}\dagger^{lphaeta}$		$\frac{\sqrt{2} t}{3}$	<u>2</u>		<u>t2</u> 3		<u>i kt2</u> 3		(0			0		0		0		$\tau_0^{\#2}$	0	0	0	0	f#2 f_0+	0	+
$f_{1}^{#1} \dagger^{\alpha\beta}$	- <u>1</u>	i √2	$\frac{1}{2}kt_2$		$-\frac{1}{3}iki$	t ₂	$\frac{k^2t_2}{3}$		()			0		0		0		$ au_0^{\#1}$	$i\sqrt{2}k$ $(1+2k^2)^2t_3$	2 k ²	E, / x 0			kt3	
$\omega_1^{\!\scriptscriptstyle\#1}\!\!\!\!+^lpha$		0			0		0	k ² (<u>r</u> 3 + .	r ₅) +	2 <i>t</i> ₃		$\frac{\sqrt{2} t_3}{3}$		0	- 2 3	Īkt₃		τ	$-\frac{\bar{l}}{(1+2)}$	2 2	7+1)		f"+1	-i √2	
$\omega_1^{\#2} \dagger^{lpha}$		0			0		0			2 <i>t</i> 3			<u>t3</u> 3		0	$\frac{1}{3}$ \bar{l} $\sqrt{}$	$\sqrt{2} kt$	3	$\sigma_{0}^{\#1}$	$\frac{1}{(1+2k^2)^2t_3}$	i $\sqrt{2} k$	6, 7	0	<u>+</u>		T
$f_{1}^{#1} \dagger^{\alpha}$		0			0		0		(0			0		0		0		$\mathcal{P}_{\mathcal{O}}$	1 (1+2 k	V 1)		$\omega_{0}^{\#1}$		ľ
$f_{1}^{#2} \dagger^{\alpha}$		0			0		0		2 ii .	<i>kt</i> 3 3		$-\frac{1}{3}$ \bar{I}	$\sqrt{2} k$	kt ₃	0	<u>2 k</u>	$\frac{t^2 t_3}{3}$		'	$\sigma_{0}^{\#1}$ \dagger	$\tau_{0}^{\#1}$ †	$\tau_{o}^{#2}$	$\sigma_{0}^{\#1}$ †		$\omega_0^{\#1}$ \dagger	, 4
		-																					J		,	
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			$\beta_{eta} \sigma_{aeta \chi}$						+ .×	+ 92	+ ¤				_	+ .×	α+	+ _β ,					+			
		г	$^{\delta}\partial_{\chi}\partial_{\beta}$			$2 \partial_{\delta} \partial_{\chi} \partial^{\alpha} \sigma^{\beta \chi \delta} + 2 \partial_{\delta} \partial^{\delta} \partial_{\chi} \sigma^{\alpha \beta \chi} = $		+ 6 +	$2 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\beta} \sigma^{\alpha \chi \delta} + 4 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\beta} \sigma^{\alpha \delta \chi} +$	$2 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\beta} \sigma^{\chi \delta \alpha} + 4 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\chi} \sigma^{\alpha \beta \delta} +$	$2 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\chi} \sigma^{\alpha \delta \beta} + 2 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\delta} \sigma^{\beta \chi \alpha} +$				$\sigma^{\alpha\delta}_{\delta}$ -	$2 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\alpha} \sigma^{\beta X \delta} + 4 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\alpha} \sigma^{\beta \delta X} +$	$2 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\alpha} \sigma^{\chi \delta \beta} + 2 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\chi} \sigma^{\beta \delta \alpha} +$	$4 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\delta} \sigma^{\alpha \beta \chi} + 2 \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\delta} \sigma^{\alpha \chi \beta} +$				+ ××		χβ+	$+ \alpha \chi^{1} \beta$	
		$_{\alpha}$ + 2 $\partial_{\chi}\partial^{\chi}\partial_{\beta}\sigma^{\alpha\beta}$	$2 \partial_{\delta} \partial$		$t^{\alpha\beta}$ +	$\partial^{\delta}\partial_{\chi}\sigma$	αχο	$\chi \partial_{\alpha} \sigma_{\beta}$	$^{\epsilon}\partial^{\epsilon}\partial_{\delta^{\prime}}$	$^{\epsilon}\partial^{\epsilon}\partial_{\delta^{0}}$	$^{\epsilon}\partial^{\epsilon}\partial_{\delta^{0}}$	+	+	# ⁹	$\epsilon^{\partial\chi}$	$^{\epsilon}\partial^{\epsilon}\partial_{\delta^{0}}$	$^{\epsilon}\partial^{\epsilon}\partial_{\delta^{\prime}}$	$^{\epsilon}\partial^{\epsilon}\partial_{\delta}$	+	+		$\partial^{\alpha} \tau^{\chi}_{\chi}$	$\partial^{\delta}\partial_{\chi}\partial$	$\partial_{\omega}\partial^{\alpha}t$	$\partial^{\delta}\partial_{\chi}\partial$	<
ş		+ 2 0 _x	$t_{\alpha\beta}$ +	1	$\partial_{\chi}\partial_{\chi}$. 2 ∂ _δ ί	χ^{+}	$\partial_{\epsilon}\partial^{\epsilon}\partial$	+40	+40	4 + 2 0	$^{\prime}\sigma^{\delta\epsilon}_{\epsilon}+$	$_5\sigma_{eta \delta \epsilon}$	$\sigma^{\alpha\delta}_{\delta}$	$3 \partial_{\epsilon} \partial$	+40	, + 2 ô	+20	$^{3}\sigma^{\delta\epsilon}{}_{\delta}+$	σαδε	$\sigma^{\beta\delta}_{\delta}$	$_{\delta}\partial_{\sigma}\partial_{\beta}$	+30 ₆	$\frac{1}{3}\partial_x\partial^{\delta}$	+ 3 0 ₆	
fielc		$\beta^{\dagger}\alpha^{\alpha}$	$^{\chi}\partial^{\chi}\partial^{\chi}$	$_{\chi}\partial^{\chi}\partial_{\beta}$	$\frac{1}{2}\chi_{\alpha}$	r ^{βχδ} +	$\partial^{\beta} \tau^{\alpha}$	· + 3	$^{eta}^{lpha\chiarrho}$	$^{eta}^{\chi arrho_{eta}}$	$^{\chi}\sigma^{\alpha\deltaeta}$	$\phi^{\mathcal{G}^{\sharp}\mathcal{G}_{\phi}}$	$\phi_{\phi} \partial_{\epsilon} \partial_{\epsilon}$	$\phi_{\partial_{\epsilon}\partial^{\epsilon}}$.αδε +	$^{\alpha}\sigma_{eta\chi\phi}$	$^{\alpha}\sigma^{\chi}\delta^{eta}$	$^{\delta}\sigma^{lphaeta\chi}$	$\theta^{g} \Theta_{\phi}$	$^{\phi}\partial_{\epsilon}\partial_{\delta}$	$\phi^{\circ} \mathcal{O}_{\varepsilon} \mathcal{O}_{\varepsilon}$	+29	$\chi_{\mathbf{r}}^{\alpha\beta}$	$\frac{\cos \alpha_{\chi}}{\beta_{\chi}}$	$\beta^{1}_{\alpha X}$	
ndamental fields	0 ==	$==\partial_{\beta}\partial^{\beta}\tau^{\alpha}$	${}_{\beta}\partial^{\alpha} t^{\beta \chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta} t^{\alpha \beta} + 2 \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}$	$_{\beta}\partial^{\alpha}\tau^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau^{\beta\alpha}$	$\alpha_{l}^{\beta\chi} + \partial_{\chi}\partial^{\beta}l^{\chi\alpha} + \partial_{\chi}\partial^{\chi}l^{\alpha\beta} +$	$\partial_{\chi}\partial^{\alpha}c$	$_{\chi}\partial^{\alpha}\tau^{\chi\beta} + \partial_{\chi}\partial^{\beta}\tau^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau^{\beta\alpha} + 2\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\alpha\chi\delta}$	$\partial_{\delta}\partial^{\chi}\partial^{\alpha}\sigma^{\beta\delta\epsilon} + 3\partial_{\epsilon}\partial^{\epsilon}\partial^{\chi}\partial^{\alpha}\sigma^{\beta\delta}$	$\partial^{\epsilon}\partial_{\delta}\partial^{\epsilon}$	$\partial^{\epsilon}\partial_{\delta}\partial^{\epsilon}$	$\partial^{\epsilon}\partial_{\delta}\partial$	$3 \eta^{\beta \chi} \partial_{\phi} \partial^{\phi} \partial_{\epsilon} \partial^{\alpha} \sigma^{\delta \epsilon}$	$3 \eta^{\alpha\chi} \partial_{\phi} \partial^{\phi} \partial_{\epsilon} \partial_{\delta} \sigma^{\beta\delta\epsilon} +$	$3 \eta^{\beta X} \partial_{\phi} \partial^{\phi} \partial_{\epsilon} \partial^{\epsilon} \sigma^{\alpha \delta}$	$\partial_{\epsilon}\partial_{\delta}\partial^{\chi}\partial^{\beta}\sigma^{\alpha\delta\epsilon}+3\partial_{\epsilon}\partial^{\epsilon}\partial^{\chi}\partial^{\beta}\sigma^{\alpha\delta}$	$\partial^{\epsilon}\partial_{\delta}\partial$	$\partial^{\epsilon}\partial_{\delta}\partial$	$\theta^{\epsilon}\theta_{\delta}\theta$	$3 \eta^{\alpha \chi} \partial_{\phi} \partial^{\phi} \partial_{\epsilon} \partial^{\beta} \sigma^{\delta \epsilon}$	$3 \eta^{eta\chi} \partial_\phi \partial^\phi \partial_\epsilon \partial_\delta \sigma^{\alpha\delta\epsilon} +$	$3 \eta^{\alpha\chi} \partial_{\phi} \partial^{\phi} \partial_{\epsilon} \partial^{\epsilon} \sigma^{\beta\delta}$	${}_5\partial_\chi\partial^\beta\partial^\alpha {}_1{}^{\chi^\delta} + 2\partial_\delta\partial^\delta\partial^\beta\partial^\alpha {}_1{}^\chi$	$3 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial^{\chi} \tau^{\alpha \beta} + 3 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial^{\chi} \tau^{\beta \alpha}$	$2^{-1} \int_{\xi} \int_{\xi} \int_{\xi} \int_{\xi} \int_{\xi} \int_{\chi} \int_{\chi} \int_{\xi} \int_{$	$3 \partial_{\delta} \partial^{\delta} \partial_{x} \partial^{\beta} \tau^{\alpha \chi} + 3 \partial_{\delta} \partial^{\delta} \partial_{x} \partial^{\beta} \tau^{\chi \alpha}$	<
ıdam	$\alpha t^{\alpha\beta}$:	$\alpha t^{\alpha\beta}$ =	g	g	$\alpha_{\mathbf{I}}^{\beta\chi}$	$2 \partial_{\delta}$	λ^{2}	$\partial_{\delta}\partial^{\chi}(z)$	$2 \partial_{\epsilon}$	2 0 E	$2 \partial_{\epsilon}$	3 nt	3 11	3 nt	$\partial_{\epsilon}\partial_{\delta}G$	2 0 E	20€	4 0 _e	3 1/	3 11	3 11	$\partial_{\chi}\partial_{\beta}$	300	$\frac{2}{3}$	300	

	l
$3 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial^{\beta} \tau^{\alpha \chi} + 3 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial^{\beta} \tau^{\chi \alpha} +$	$\omega_{0}^{\#1}$ \dagger
$2 \eta^{\alpha\beta} \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\delta} \tau^{\chi}_{\chi}$	$f_0^{#1} + \overline{i} $
Total constraints/gauge generators:	f*2+
	$\omega_{0^-}^{\#1} +$
Quadratic (free) action	
$S == \iiint \left(\frac{1}{6} \left(-4t_3 \ \omega^{\alpha}_{\alpha} \ \omega^{\kappa}_{\prime \kappa} + 6 \ f^{\alpha\beta} \ \tau_{\alpha\beta} + 6 \ \omega^{\alpha\beta\chi} \ \sigma_{\alpha\beta\chi} + 8t_3 \ \omega^{\kappa}_{\alpha \kappa} \ \partial_{\beta} f^{\alpha\prime} - \right) \right)$	$\omega_2^{*+} +^{\alpha\beta}$
$8t_3 \omega_{_K}^{_K} \partial' f^{\alpha}_{} + 4t_3 \partial_i f^{_K}_{} \partial^i f^{\alpha}_{} - 3r_3 \partial_\beta \omega_{_I}^{\theta} \partial^i \omega^{\alpha\beta}_{\alpha} -$	$f_2^{#1} + \alpha \beta$
$3r_3\partial_i\omega_{eta}^{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	$\omega_{2}^{*1} +^{lphaeta\chi}$
$6 r_3 \partial' \omega^{\alpha eta}_{ \alpha} \partial_{\theta} \omega^{ \beta}_{ } - 3 r_3 \partial_{\alpha} \omega^{\alpha eta \prime} \partial_{\theta} \omega^{ \beta}_{ } +$	
$6 r_3 \partial' \omega^{\alpha \beta}_{ \alpha} \partial_\theta \omega^{ \theta}_{ } + 4 t_2 \ \omega_{ \theta \alpha} \ \partial^\theta f^{\alpha \prime} + 2 t_2 \ \partial_\alpha f_{ \theta} \partial^\theta f^{\alpha \prime} -$	$\sigma_{2}^{\#1} + \alpha \beta$
$t_2\partial_{lpha}f_{eta_1}\partial^{eta}f^{lpha_1}$ - $t_2\partial_{\scriptscriptstyle j}f_{lphaeta}\partial^{eta}f^{lpha_l}$ + $t_2\partial_{\scriptscriptstyle heta}f_{lpha_l}\partial^{eta}f^{lpha_l}$ -	$t_{1}^{*1} + \alpha \beta$
$t_2 \partial_{ heta} f_{ \prime lpha} \partial^{ heta} f^{lpha \prime} - 4 t_2 \omega_{lpha heta \prime} \left(\omega^{lpha \prime eta} + \partial^{ heta} f^{lpha \prime} ight) +$	2 π π π π π π π π π
$2t_2 \ \omega_{\alpha\prime\theta} \ (\omega^{\alpha\prime\theta} + 2\partial^{\theta}f^{\alpha\prime}) + 8t_2 \partial_{\beta}\omega_{\alpha\prime\theta}\partial^{\theta}\omega^{\alpha\beta\prime}$ -	02- 1
$4r_2\partial_eta\omega_{lphaeta_\prime}\partial^eta\omega^{lphaeta_\prime}+4r_2\partial_eta\omega_{{}_{_{_{_{_{_{_{_{_{_{_{_{_{_{_{_{_{_$	
$24 r_3 \partial_eta \omega_{ l eta \alpha} \partial^eta \omega^{lpha eta l} - 2 r_2 \partial_l \omega_{lpha eta eta} \partial^eta \omega^{lpha eta l} +$	
$2r_2\partial_ heta\omega_{lphaeta_I}\partial^ heta\omega^{lphaeta_I}$ - $4r_2\partial_ heta\omega_{lpha_Ieta}\partial^ heta\omega^{lphaeta_I}$ +	
$6r_5\partial_i\omega_{\theta}^{\ \ \ \kappa}\partial^{ heta}\omega^{lpha'}_{\ \ lpha}-6r_5\partial_{ heta}\omega_i^{\ \ \kappa}\partial^{ heta}\omega^{lpha'}_{\ \ \ \kappa}+$	
$4t_3\partial_{\scriptscriptstyle j} f^{\alpha\prime}\partial_{\scriptscriptstyle k} f_{}^{} + 8t_3\partial^{\prime} f_{}^{}\partial_{\scriptscriptstyle k} f_{}^{} - 6r_5\partial_{\alpha}\omega^{\alpha\prime\theta}\partial_{\scriptscriptstyle k}\omega_{\scriptscriptstyle l}^{}{}_{}^{} +$	
$12 r_5 \partial^{\theta} \omega^{\alpha \prime}_{ \alpha} \partial_{\kappa} \omega^{ \prime}_{ \beta} + 6 r_5 \partial_{\alpha} \omega^{\alpha \prime \theta} \partial_{\kappa} \omega^{ \prime}_{ \prime} -$	
$12r_5\partial^{ heta}\omega^{lpha\prime}_{}\partial_{\kappa}\omega^{\prime}_{}))[t, ext{κ}, ext{y}, ext{z}]d\!zd\!yd\!xdt$	

 $\sigma_{2}^{\#1}{}_{lphaeta}$

 $\frac{4i}{k(1+2k^2)(r_3+2r_5)}$ $\frac{i\sqrt{2}(3k^2(r_3+2r_5)+4t_3)}{k(1+2k^2)^2(r_3+2r_5)t_3}$

 $\frac{2\sqrt{2}}{k^2(1+2k^2)(r_3+2r_5)}$ $\frac{3k^2(r_3+2r_5)+4t_3}{(k+2k^3)^2(r_3+2r_5)t_3}$

 $\frac{2}{k^{2}(r_{3}+2r_{5})}$ $\frac{2\sqrt{2}}{k^{2}(1+2k^{2})(r_{3}+2r_{5})}$

 $\sigma_{1}^{\#1}$

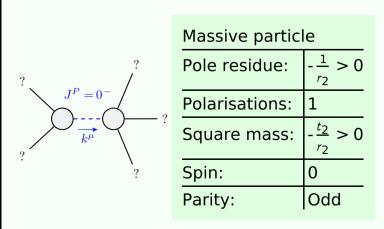
 $\frac{6k^2(r_3+2r_5)+8t_3}{(1+2k^2)^2(r_3+2r_5)t_3}$

 $-\frac{i\sqrt{2}(3k^2(r_3+2r_5)+4t_3)}{k(1+2k^2)^2(r_3+2r_5)t_3}$

S $r^{\alpha\beta} + 2 \partial_{\alpha} \partial^{\alpha} \partial_{\beta} \sigma$ $r^{\alpha\beta} + 2 \partial_{\delta} \partial^{\beta} \sigma$ $r^{\beta\alpha}$	$ \frac{\alpha^{r} O}{e^{\beta}} \frac{\alpha^{r} O$	$\partial_{\sigma} \partial^{\sigma} \partial^{\beta} \partial^{\alpha} \tau^{\chi}$ $+ 3 \partial_{\sigma} \partial^{\sigma} \partial_{\chi} \partial^{\lambda}$ $+ 3 \partial_{\sigma} \partial^{\sigma} \partial_{\chi} \partial^{\alpha} \tau^{\lambda}$ $+ 3 \partial_{\sigma} \partial^{\sigma} \partial_{\chi} \partial^{\epsilon}$ $+ 3 \partial_{\sigma} \partial^{\sigma} \partial_{\chi} \partial^{\epsilon}$	$+6 \omega^{\alpha\beta\chi} \sigma_{\alpha}$ $+6 \omega^{\alpha\beta\chi} \sigma_{\alpha}$ $-4t_{3}\partial_{i}f^{\kappa}{}_{k}\partial^{i}f^{\beta}$ $^{3}a_{3}-3r_{3}\partial_{\alpha}\omega^{\alpha\beta}$ $^{9}a_{i}-3r_{3}\partial_{\alpha}\omega^{\alpha\beta}$ $^{9}a_{j}+4t_{2}\omega_{i}\theta_{\alpha}$ $^{9}a_{j}+4t_{2}\omega_{i}\theta_{\alpha}$ $^{9}a_{j}+4t_{2}\omega_{i}\theta_{\alpha}$ $^{9}a_{j}+4t_{2}\omega_{i}\theta_{\alpha}$ $^{9}a_{j}+4t_{2}\omega_{i}\theta_{\alpha}$ $^{9}a_{j}+4t_{2}\omega_{i}\theta_{\alpha}$ $^{1}a_{j}+4r_{2}\partial_{\beta}\omega_{i}\theta_{\alpha}$ $^{$	
ntal fields 0 $ \frac{\partial}{\partial \beta} \partial^{\beta} \tau^{\alpha} + \frac{\partial}{\partial \lambda} \partial^{\beta} \partial^{\beta} \tau^{\beta} $ $ = \frac{\partial}{\partial \lambda} \partial^{\lambda} \partial_{\beta} \tau^{\beta} $ $ = \frac{\partial}{\partial \lambda} \partial^{\lambda} \partial_{\beta} \tau^{\beta} $ $ \Rightarrow \frac{\partial}{\partial \alpha} \partial^{\beta} \nabla^{\lambda} \partial^{\beta} \tau^{\lambda} $ $ \Rightarrow \frac{\partial}{\partial \alpha} \partial^{\beta} \nabla^{\lambda} \partial^{\beta} \tau^{\lambda} $ $ \Rightarrow \frac{\partial}{\partial \alpha} \partial^{\beta} \nabla^{\lambda} \partial^{\beta} \tau^{\lambda} $ $ \Rightarrow \frac{\partial}{\partial \alpha} \partial^{\beta} \nabla^{\lambda} \partial^{\beta} \tau^{\lambda} $	$a_{X^{O'}T} + 2 a_{\delta \delta X^{O}}$ $3 a_{\epsilon} \partial_{\delta} \partial^{X} \partial^{\alpha} \sigma^{\beta \delta \epsilon} + 3 a_{\epsilon}$ $2 a_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\beta} \sigma^{\alpha X^{\delta}} +$ $2 a_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\beta} \sigma^{X^{O}} +$ $2 a_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\beta} \sigma^{X^{O}} +$ $3 \eta^{\beta X} \partial_{\phi} \partial^{\phi} \partial_{\epsilon} \partial^{\alpha} \sigma^{\beta} +$ $3 \eta^{\beta X} \partial_{\phi} \partial^{\phi} \partial_{\epsilon} \partial^{\epsilon} $	$ \frac{\partial^{\beta}\partial^{\alpha} \tau^{X\delta} + 2}{\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi} \tau^{\alpha\beta}} $ $ \eta^{\alpha\beta} \frac{\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\epsilon}}{\partial^{\delta}\partial_{\chi}\partial^{\alpha} \tau^{\beta\chi} + 2} $ $ \frac{\partial^{\delta}\partial_{\chi}\partial^{\alpha} \tau^{\beta\chi} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta} \tau^{\alpha\chi}}{\partial^{\delta}\partial^{\delta}\partial^{\delta}\partial^{\delta}\partial^{\delta}\partial^{\delta}\partial^{\delta}\partial^$	$ \begin{array}{c} $	$ \frac{\sigma_{1}^{\#2}}{\sigma_{1}^{1+}\alpha\beta} $ $ -\frac{\sqrt{2}}{k^{2}(1+k^{2})(2r_{3}+r_{5})} $ $ \frac{3k^{2}(2r_{3}+r_{5})+2t_{2}}{(k+k^{3})^{2}(2r_{3}+r_{5})t_{2}} $ $ \frac{i(3k^{2}(2r_{3}+r_{5})+2t_{2})}{k(1+k^{2})^{2}(2r_{3}+r_{5})t_{2}} $ $ 0 $ $ 0 $
constraints reps $k \sigma_{0+}^{\#1} == 0$ $2 i k \sigma_{1-}^{\#2} \alpha == 0$ 0 $i k \sigma_{1+}^{\#2} \alpha \beta == 0$	0 ==)	$t_2^{\#1}{}^{\alpha\beta} == 0$ Total constraints/gau	atic (free) action $\iint (\frac{1}{6} (-4t_3 \omega^{\alpha'} \alpha \alpha) d\alpha) d\alpha$	$ \frac{\sigma_{1}^{\#1} \alpha \beta}{k^{2} (2r_{3} + r_{5})} $ $ \frac{\sqrt{2}}{k^{2} (1 + k^{2}) (2r_{3} + r_{5})} $ $ \frac{i \sqrt{2}}{k(1 + k^{2}) (2r_{3} + r_{5})} $ $ 0 $ $ 0 $ $ 0 $
Source SO(3) ir $t_0^{\#2} == 0$ $t_0^{\#1} - 2i$ $t_1^{\#2} \alpha + 2$ $t_1^{\#1} \alpha = 0$ $t_1^{\#1} \alpha = 0$ $t_1^{\#1} \alpha = 0$	$\sigma_{2}^{\#1}\alphaeta\chi$	$\tau_2^{\#1}\alpha\beta$	Quadratic $S == \iiint \left(\frac{1}{6}\right)$	
lassive and massless spectra				

 $i\sqrt{2}kt_3$

Massive and massless spectra



?								
?	Quadratic pole							
?	Pole residue:	$-\frac{1}{r_3(2r_3+r_5)(r_3+2r_5)p^2} > 0$						
?	Polarisations:	2						
?								

Unitarity conditions

 $r_2 < 0 \& \& r_3 < 0 \& \& r_5 < -\frac{r_3}{2} \& \& t_2 > 0 \mid\mid r_2 < 0 \& \& r_3 < 0 \& \& r_5 > -2 \cdot r_3 \& \& t_2 > 0 \mid\mid r_2 < 0 \& \& r_3 > 0 \& \& -2 \cdot r_3 < r_5 < -\frac{r_3}{2} \& \& t_2 > 0$