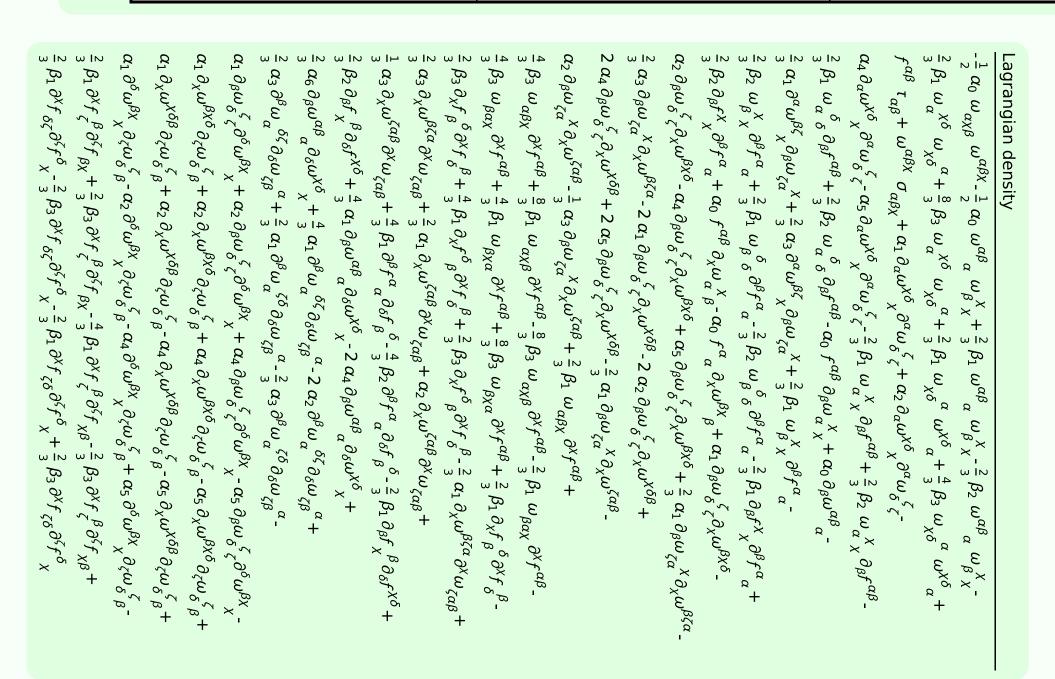
	$\sigma_{1^{+}\alpha\beta}^{\sharp 1}$	$\sigma_{1^{+}lphaeta}^{\#2}$	$ au_{1}^{\#1}{}_{lphaeta}$	$\sigma_{1}^{\#1}{}_{lpha}$	$\sigma_{1}^{\#2}{}_{lpha}$	$ au_{1}^{\#1}$ α	$ au_1^{\#2}{}_{lpha}$
$\sigma_{1}^{\#1} \dagger^{\alpha_{l}}$	$\frac{\frac{1}{-\frac{3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)}{16(\beta_1+2\beta_3)}+(\alpha_2+\alpha_5)k^2}$	$-\frac{2\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$-\frac{2 i \sqrt{2} (3 \alpha_0 - 4 \beta_1 + 16 \beta_3) k}{(1+k^2) (-3 (\alpha_0 - 4 \beta_1) (\alpha_0 + 8 \beta_3) + 16 (\alpha_2 + \alpha_5) (\beta_1 + 2 \beta_3) k^2)}$	0	0	0	0
$\sigma_{1}^{\#2} \dagger^{\alpha_{I}}$	$= \frac{2\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$\frac{6 \alpha_0 + 8 (\beta_1 + 8 \beta_3 + 3 (\alpha_2 + \alpha_5) k^2)}{(1+k^2)^2 (-3 (\alpha_0 - 4 \beta_1) (\alpha_0 + 8 \beta_3) + 16 (\alpha_2 + \alpha_5) (\beta_1 + 2 \beta_3) k^2)}$	$\frac{2 i k (3 \alpha_0 + 4 (\beta_1 + 8 \beta_3 + 3 (\alpha_2 + \alpha_5) k^2))}{(1 + k^2)^2 (-3 (\alpha_0 - 4 \beta_1) (\alpha_0 + 8 \beta_3) + 16 (\alpha_2 + \alpha_5) (\beta_1 + 2 \beta_3) k^2)}$	0	0	0	0
$ au_{1}^{\#1} \dagger^{lpha_{I}}$	$\frac{2 i \sqrt{2} (3 \alpha_0 - 4 \beta_1 + 16 \beta_3) k}{(1+k^2) (-3 (\alpha_0 - 4 \beta_1) (\alpha_0 + 8 \beta_3) + 16 (\alpha_2 + \alpha_5) (\beta_1 + 2 \beta_3) k^2)}$	$-\frac{2ik(3\alpha_{0}+4(\beta_{1}+8\beta_{3}+3(\alpha_{2}+\alpha_{5})k^{2}))}{(1+k^{2})^{2}(-3(\alpha_{0}-4\beta_{1})(\alpha_{0}+8\beta_{3})+16(\alpha_{2}+\alpha_{5})(\beta_{1}+2\beta_{3})k^{2})}$	$\frac{2 k^2 (3 \alpha_0 + 4 (\beta_1 + 8 \beta_3 + 3 (\alpha_2 + \alpha_5) k^2))}{(1 + k^2)^2 (-3 (\alpha_0 - 4 \beta_1) (\alpha_0 + 8 \beta_3) + 16 (\alpha_2 + \alpha_5) (\beta_1 + 2 \beta_3) k^2)}$	0	0	0	0
$\sigma_1^{\sharp 1}$ †'	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	$\frac{4 i (3 \alpha_0 - 4 \beta_1 + 4 \beta_2) k}{(1 + 2 k^2) (-3 (\alpha_0 - 4 \beta_1) (\alpha_0 + 2 \beta_2) + 8 (\alpha_4 + \alpha_5) (2 \beta_1 + \beta_2) k^2)}$
$\sigma_1^{\#2}$ †°	0	0	0	$\frac{2\sqrt{2}(3\alpha_0-4\beta_1+4\beta_2)}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$	$\frac{6 \alpha_0 + 8 (\beta_1 + 2 \beta_2 + 3 (\alpha_4 + \alpha_5) k^2)}{(1 + 2 k^2)^2 (-3 (\alpha_0 - 4 \beta_1) (\alpha_0 + 2 \beta_2) + 8 (\alpha_4 + \alpha_5) (2 \beta_1 + \beta_2) k^2)}$	0	$\frac{2 i \sqrt{2} k (3 \alpha_0 + 4 (\beta_1 + 2 \beta_2 + 3 (\alpha_4 + \alpha_5) k^2))}{(1 + 2 k^2)^2 (-3 (\alpha_0 - 4 \beta_1) (\alpha_0 + 2 \beta_2) + 8 (\alpha_4 + \alpha_5) (2 \beta_1 + \beta_2) k^2)}$
$\tau_1^{\#1} + $	0	0	0	0	0	0	0
$\tau_1^{\#2} + $	0	0	0	$-\frac{4 i (3 \alpha_{0}-4 \beta_{1}+4 \beta_{2}) k}{(1+2 k^{2}) (-3 (\alpha_{0}-4 \beta_{1}) (\alpha_{0}+2 \beta_{2})+8 (\alpha_{4}+\alpha_{5}) (2 \beta_{1}+\beta_{2}) k^{2})}$	$-\frac{2 i \sqrt{2} k (3 \alpha_0+4 (\beta_1+2 \beta_2+3 (\alpha_4+\alpha_5) k^2))}{(1+2 k^2)^2 (-3 (\alpha_0-4 \beta_1) (\alpha_0+2 \beta_2)+8 (\alpha_4+\alpha_5) (2 \beta_1+\beta_2) k^2)}$	0	$\frac{4 k^2 (3 \alpha_0 + 4 (\beta_1 + 2 \beta_2 + 3 (\alpha_4 + \alpha_5) k^2))}{(1 + 2 k^2)^2 (-3 (\alpha_0 - 4 \beta_1) (\alpha_0 + 2 \beta_2) + 8 (\alpha_4 + \alpha_5) (2 \beta_1 + \beta_2) k^2)}$



	$\omega_{1^{+}lphaeta}^{\sharp1}$	$\omega_{1^{+}lphaeta}^{ ext{#2}}$	$f_{1}^{\#1}{}_{\alpha\beta}$	$\omega_{1^{-}\alpha}^{\sharp 1}$	$\omega_{1}^{\#2}{}_{lpha}$	$f_{1-\alpha}^{\#1}$	$f_{1}^{#2}{}_{\alpha}$
$\omega_{1}^{\sharp 1} \dagger^{lpha eta}$	$\frac{\alpha_0}{4} + \frac{1}{3} (\beta_1 + 8 \beta_3) + (\alpha_2 + \alpha_5) k^2$	$\frac{3\alpha_0-4\beta_1+16\beta_3}{6\sqrt{2}}$	$\frac{i(3\alpha_0-4\beta_1+16\beta_3)k}{6\sqrt{2}}$	0	0	0	0
$\omega_{1}^{\#2} \dagger^{\alpha\beta}$	$\frac{3 \alpha_0 - 4 \beta_1 + 16 \beta_3}{6 \sqrt{2}}$	$\frac{2}{3}\left(\beta_1+2\beta_3\right)$	$\frac{2}{3}i(\beta_1+2\beta_3)k$	0	0	0	0
$f_{1+}^{\#1}\dagger^{\alpha\beta}$	$-\frac{i(3\alpha_0-4\beta_1+16\beta_3)k}{6\sqrt{2}}$	$-\frac{2}{3}\bar{i}\left(\beta_1+2\beta_3\right)k$	$\frac{2}{3}(\beta_1 + 2\beta_3)k^2$	0	0	0	0
$\omega_1^{\sharp 1} \dagger^{lpha}$	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	$-\frac{1}{6}\bar{i}(3\alpha_0-4\beta_1+4\beta_2)k$
$\omega_1^{\#2} \dagger^{\alpha}$	0	0	0	$-\frac{3 \alpha_0 - 4 \beta_1 + 4 \beta_2}{6 \sqrt{2}}$	$\frac{1}{3}\left(2\beta_1+\beta_2\right)$	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
$f_{1}^{#2} \dagger^{\alpha}$	0	0	0	$\frac{1}{6}$ i (3 α_0 - 4 β_1 + 4 β_2) k	$-\frac{1}{3}i\sqrt{2}(2\beta_1+\beta_2)k$	0	$\frac{2}{3} (2 \beta_1 + \beta_2) k^2$

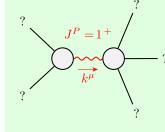
		$\omega_{0}^{\sharp 1}$	$f_{0+}^{#1}$	$f_{0}^{#2}$	$\omega_0^{\#1}$
C	$\omega_{0}^{\#1}$ †	$\frac{\alpha_0}{2} + \beta_2 + (\alpha_4 + \alpha_6) k^2$	$-\frac{i(\alpha_0+2\beta_2)k}{\sqrt{2}}$	0	0
	f ₀ ^{#1} †	$\frac{i(\alpha_0+2\beta_2)k}{\sqrt{2}}$	$2 \beta_2 k^2$	0	0
	$f_{0+}^{#2} \dagger$	0	0	0	0
($\omega_{0}^{\#1}$ †	0	0	0	$\frac{\alpha_0}{2} + 4\beta_3 + (\alpha_2 + \alpha_3) k^2$

Total #:	$\tau_{1+}^{\#1}{}^{\alpha\beta} + ik \sigma_{1+}^{\#2}{}^{\alpha\beta} == 0$	$t_1^{\#1\alpha} == 0$	$t_1^{\#2\alpha} + 2ik \sigma_1^{\#2\alpha} == 0$	$\tau_{0+}^{\#2} == 0$	SO(3) irreps	Source constraints
10	3	3	3	1	#	

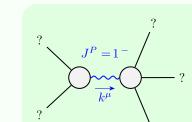
	$\sigma_{0}^{\sharp 1}$	$ au_{0}^{\#1}$	$ au_{0}^{\#2}$	$\sigma_0^{#1}$
$\sigma_{0}^{\#1}$ †	$-\frac{4 \beta_2}{{\alpha_0}^2 + 2 \alpha_0 \beta_2 - 4 (\alpha_4 + \alpha_6) \beta_2 k^2}$	$\frac{i\sqrt{2}(\alpha_0 + 2\beta_2)}{-\alpha_0(\alpha_0 + 2\beta_2)k + 4(\alpha_4 + \alpha_6)\beta_2 k^3}$	0	0
$ au_{0^{+}}^{#1}$ †	$\frac{i\sqrt{2}(\alpha_0+2\beta_2)}{\alpha_0(\alpha_0+2\beta_2)k-4(\alpha_4+\alpha_6)\beta_2k^3}$	$\frac{\frac{\alpha_0}{2} + \beta_2 + (\alpha_4 + \alpha_6) k^2}{\frac{1}{2} \alpha_0 (\alpha_0 + 2 \beta_2) k^2 + 2 (\alpha_4 + \alpha_6) \beta_2 k^4}$	0	0
$ au_{0}^{\#2} \dagger$	0	0	0	0
$\sigma_{0}^{\#1}$ †	0	0	0	$\frac{2}{\alpha_0 + 8\beta_3 + 2(\alpha_2 + \alpha_3)k^2}$

	$\sigma^{\sharp 1}_{ extsf{2}^{+}lphaeta}$	$ au_{2}^{\#1}{}_{lphaeta}$	$\sigma_{2^{-}\alpha\beta\chi}^{\#1}$
$\sigma_{2}^{\sharp 1}\dagger^{lphaeta}$	$\frac{16 \beta_1}{-\alpha_0^2 + 4 \alpha_0 \beta_1 + 16 (\alpha_1 + \alpha_4) \beta_1 k^2}$	$\frac{2 i \sqrt{2} (\alpha_0 - 4 \beta_1)}{\alpha_0 (\alpha_0 - 4 \beta_1) k - 16 (\alpha_1 + \alpha_4) \beta_1 k^3}$	0
$ au_2^{\#1} \dagger^{lphaeta}$	$-\frac{2 i \sqrt{2} (\alpha_0 - 4 \beta_1)}{\alpha_0 (\alpha_0 - 4 \beta_1) k - 16 (\alpha_1 + \alpha_4) \beta_1 k^3}$	$\frac{2 (\alpha_0 - 4 (\beta_1 + (\alpha_1 + \alpha_4) k^2))}{k^2 (\alpha_0^2 - 4 \alpha_0 \beta_1 - 16 (\alpha_1 + \alpha_4) \beta_1 k^2)}$	0
$\sigma_2^{\sharp_1} \dagger^{lphaeta\chi}$	0	0	$\frac{1}{-\frac{\alpha_0}{4} + \beta_1 + (\alpha_1 + \alpha_2) k^2}$

	$\omega_{2^{+}lphaeta}^{\sharp1}$	$f_{2^{+}\alpha\beta}^{\#1}$	$\omega_{2^{-} lpha eta \chi}^{\# 1}$
$\omega_{2}^{\sharp 1} \dagger^{lphaeta}$	$-\frac{\alpha_0}{4}+\beta_1+(\alpha_1+\alpha_4)k^2$	$\frac{i(\alpha_0-4\beta_1)k}{2\sqrt{2}}$	0
$f_{2}^{#1} \dagger^{\alpha\beta}$	$-\frac{i(\alpha_0-4\beta_1)k}{2\sqrt{2}}$	$2 \beta_1 k^2$	0
$\omega_2^{\#1}\dagger^{lphaeta\chi}$	0	0	$-\frac{\alpha_0}{4}+\beta_1+(\alpha_1+\alpha_2)k^2$



Massive partic	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:	$\frac{\frac{3(\alpha_0 - 4\beta_1)(\alpha_0 + 8\beta_3)}{16(\alpha_2 + \alpha_5)(\beta_1 + 2\beta_3)}}{16(\alpha_2 + \alpha_5)(\beta_1 + 2\beta_3)} > 0$						
Spin:	1						
Parity:	Even						



Spin:

Parity:

Odd

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: 3Square mass: $\frac{3(\alpha_0 - 4\beta_1)(\alpha_0 + 2\beta_2)}{8(\alpha_4 + \alpha_5)(2\beta_1 + \beta_2)} > 0$

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

$J^P = 2 + /$				$J^{P} = 0^{+}$						
D)) ;;) ; ;) ; ; ; ; ; ; ; ; ; ; ;	Pole residue:	Massive particle		Parity:	Spin:	Square mass:	Polarisations:	Pole residue:	Massive particle	
П	$-\frac{2}{\alpha_0} + \frac{\alpha_1 + \alpha_4 + 2\beta_1}{2\alpha_1\beta_1 + 2\alpha_4\beta_1} > 0$	le		Even	0	$\frac{\alpha_0 (\alpha_0 + 2\beta_2)}{4 (\alpha_4 + \alpha_6) \beta_2} > 0$	1	$\frac{1}{\alpha_0} + \frac{\alpha_4 + \alpha_6 + 2\beta_2}{2\alpha_4\beta_2 + 2\alpha_6\beta_2} > 0$	le	

		<u> </u>
?		? [
, /	$J^P = 0^-$	
	$\sqrt{\frac{1}{k^{\mu}}}$	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\
?		? -

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

