PSALTer kinematic panel

Momentum	Norm	Frame	
k^{μ}	$k^2 == k_\mu k^\mu$	$n^{\mu} = \frac{k^{\mu}}{k^{\mu}}$	

Fundamental fields

Fields	Symmetries	SO(3)	Sources
$\mathcal{A}^{lphaeta}_{\chi}$	StrongGenSet[{1,2},GenSet[-(1,2)]]	$\frac{4}{3} {}^{2}\mathcal{A}^{\parallel}{}^{\alpha\beta}{}_{\chi} + \frac{1}{2} {}^{1}\mathcal{A}^{\parallel}{}^{\beta} \delta^{\alpha}{}_{\chi} - \frac{1}{2} {}^{1}\mathcal{A}^{\parallel}{}^{\alpha} \delta^{\beta}{}_{\chi} + {}^{1+}\mathcal{A}^{\parallel}{}^{\beta}{}_{\chi} n^{\alpha} + {}^{2+}\mathcal{A}^{\parallel}{}^{\beta}{}_{\chi} n^{\alpha} + \frac{1}{3} {}^{0+}\mathcal{A}^{\parallel} \delta^{\beta}{}_{\chi} n^{\alpha} - {}^{1+}\mathcal{A}^{\parallel}{}^{\alpha}{}_{\chi} n^{\beta} - {}^{1+}\mathcal{A}^{\parallel}{}^{\alpha}{}_{\chi} n^{\beta} + {}^{1+}\mathcal{A}^{\parallel}{}^{\beta}{}_{\chi} n^{\alpha} + {}^{1+}\mathcal{A}^$	$\sigma_{\alpha\beta\chi}$
		${}^{2^{+}}\mathcal{A}^{\parallel}{}^{\alpha}_{\chi}\ n^{\beta} - \frac{1}{3}{}^{0^{+}}\mathcal{A}^{\parallel}\ \delta^{\alpha}_{\chi}\ n^{\beta} + {}^{1^{+}}\mathcal{A}^{\perp}{}^{\alpha\beta}\ n_{\chi} - \frac{1}{2}{}^{1}\mathcal{A}^{\parallel}{}^{\beta}\ n^{\alpha}\ n_{\chi} - {}^{1}\mathcal{A}^{\perp\beta}\ n^{\alpha}\ n_{\chi} + \frac{1}{2}{}^{1}\mathcal{A}^{\parallel}{}^{\alpha}\ n^{\beta}\ n_{\chi} + {}^{1}\mathcal{A}^{\perp\alpha}\ n^{\beta}\ n_{\chi} - \frac{1}{6}{}^{0}\mathcal{A}^{\parallel}\ \epsilon\eta^{\alpha\beta}_{\chi\delta}\ n^{\delta}$	
$f_{\alpha\beta}$	StrongGenSet[{},GenSet[]]	$1^{+}_{f}f^{\parallel}_{\alpha\beta} + 2^{+}_{f}f^{\parallel}_{\alpha\beta} + \frac{1}{3} \cdot f^{\parallel}_{f} \eta_{\alpha\beta} + 1^{+}_{f}f^{\parallel}_{\beta} \eta_{\alpha} + 1^{+}_{f}f^{\perp}_{\alpha} \eta_{\beta} - \frac{1}{3} \cdot f^{\parallel}_{f} \eta_{\alpha} \eta_{\beta} + 1^{+}_{f}f^{\perp}_{\alpha} \eta_{\alpha} \eta_{\alpha$	$\tau \left(\Delta + \mathcal{K}\right)_{\alpha\beta}$

SO(3) irreps

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SO(3) Syr	mmetries	Expansion	Sources	
⁰⁺ <i>Я</i> [∥] St	trongGenSet[{},GenSet[]]	${\mathcal{A}}_{lpha\ eta}^{\ eta}\ n^{lpha}$	$^{0^+}\sigma^{\parallel}$	
⁰ -ℋ [∥] St	trongGenSet[{}, GenSet[]] -	$\mathcal{A}^{eta\chi\delta} \in \eta_{lphaeta\chi\delta} \ n^{lpha}$	⁰ . σ	
$^{1^{+}}\mathcal{A}^{\parallel}_{\alpha\beta}$ St	trongGenSet[{1, 2}, GenSet[-(1,2)]]	$\frac{1}{2} \mathcal{A}_{\alpha\chi\beta} n^{\chi} + \frac{1}{2} \mathcal{A}_{\beta\chi\alpha} n^{\chi} - \frac{1}{2} \mathcal{A}_{\beta\chi\delta} n_{\alpha} n^{\chi} n^{\delta} + \frac{1}{2} \mathcal{A}_{\alpha\chi\delta} n_{\beta} n^{\chi} n^{\delta}$	$^{1^{+}}\sigma^{\parallel}{}_{\alpha\beta}$	
$^{1^{+}}\mathcal{F}_{\alpha\beta}^{\perp}$ St	trongGenSet[{1,2},GenSet[-(1,2)]]	$\mathcal{A}_{\alpha\beta\chi} \ n^{\chi} + \mathcal{A}_{\beta\chi\delta} \ n_{\alpha} \ n^{\chi} \ n^{\delta} - \mathcal{A}_{\alpha\chi\delta} \ n_{\beta} \ n^{\chi} \ n^{\delta}$	$^{1^{+}}\sigma^{\perp}{}_{\alpha\beta}$	
${}^{1}\mathcal{A}^{\parallel}{}_{\alpha}$ St	trongGenSet[{}, GenSet[]] -	$\mathcal{A}_{\alpha\beta}^{\ \beta} + \mathcal{A}_{\beta\chi}^{\ \chi} \ n_{\alpha} \ n^{\beta} + \mathcal{A}_{\alpha\beta\chi} \ n^{\beta} \ n^{\chi}$	$^{1}\sigma^{\parallel}{}_{\alpha}$	
${}^1{\mathscr H}^{\scriptscriptstyle\perp}{}_{lpha}$ St	trongGenSet[{},GenSet[]]	$\mathcal{A}_{lphaeta\chi}$ n^eta n^χ	$^{1}\sigma^{_{}^{\perp}}\alpha$	
$^{2^{+}}\mathcal{H}^{\parallel}{}_{lphaeta}$ St	trongGenSet[{1,2}, GenSet[(1,2)]]	$\frac{1}{2}\mathcal{A}_{\alpha\chi\beta}n^{\chi}-\frac{1}{2}\mathcal{A}_{\beta\chi\alpha}n^{\chi}-\frac{1}{3}\mathcal{A}_{\chi\delta}^{\delta}\eta_{\alpha\beta}n^{\chi}+\frac{1}{3}\mathcal{A}_{\chi\delta}^{\delta}n_{\alpha}n_{\beta}n^{\chi}+\frac{1}{2}\mathcal{A}_{\beta\chi\delta}n_{\alpha}n^{\chi}n^{\delta}+\frac{1}{2}\mathcal{A}_{\alpha\chi\delta}^{}n_{\beta}^{}n^{\chi}n^{\delta}$	$^{2^{+}}\sigma^{\parallel}{}_{\alpha\beta}$	
${}^{2}\mathcal{A}^{\parallel}{}_{\alpha\beta\chi}$ St	trongGenSet[{1,2},GenSet[-(1,2)]]	$\frac{1}{2} \mathcal{A}_{\alpha\beta\chi} + \frac{1}{4} \mathcal{A}_{\alpha\chi\beta} - \frac{1}{4} \mathcal{A}_{\beta\chi\alpha} + \frac{3}{8} \mathcal{A}_{\beta\ \delta}^{\ \delta} n_{\alpha\chi} - \frac{3}{8} \mathcal{A}_{\alpha\ \delta}^{\ \delta} n_{\beta\chi} - \frac{3}{8} \mathcal{A}_{\beta\ \delta}^{\ \delta} n_{\alpha} n_{\chi} + \frac{3}{8} \mathcal{A}_{\alpha\ \delta}^{\ \delta} n_{\beta} n_{\chi} + \frac{1}{4} \mathcal{A}_{\beta\chi\delta} n_{\alpha} n^{\delta} + \frac{1}{4} \mathcal{A}_{\beta\chi\delta}^{\ \delta} n_{\alpha} n^{\delta} + \frac{1}{4} \mathcal{A}_{\beta\chi\delta}^{\ \delta} n_{\alpha}^{\ \delta} n^{\delta}_{\alpha\beta}^{\ \delta}^{\ \delta} n^{\delta}_{\alpha\beta}^{\ \delta}^{\ \delta} n^{\delta}_{\alpha\beta}^{\ \delta}^{\ \delta} n^{\delta}_{\alpha\beta}^{\ \delta}^{\ \delta}^{\ \delta}_{\alpha\beta}^{\ \delta}_{\alpha\beta}^{\ \delta}^{\ \delta}_{\alpha\beta}^{\ \delta}^{\ \delta}_{\alpha\beta}^{\ \delta}^{\ \delta}_{\alpha\beta}^{\ \delta}_{\alpha\beta}^{\ \delta}^{\ \delta}_{\alpha\beta}^{\$	$^{2}\sigma^{\parallel}_{\alpha\beta\chi}$	
		$\frac{1}{2} \mathcal{A}_{\beta\delta\chi} \ n_{\alpha} \ n^{\delta} + \frac{1}{4} \mathcal{A}_{\chi\delta\beta} \ n_{\alpha} \ n^{\delta} + \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\beta\chi} \ n_{\alpha} \ n^{\delta} - \frac{1}{4} \mathcal{A}_{\alpha\chi\delta} \ n_{\beta} \ n^{\delta} - \frac{1}{2} \mathcal{A}_{\alpha\delta\chi} \ n_{\beta} \ n^{\delta} - \frac{1}{4} \mathcal{A}_{\chi\delta\alpha} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\delta\epsilon}^{\epsilon} \ n_{\alpha\chi} \ n_{\beta} \ n^{\delta}$		
		$\frac{1}{2} \mathcal{A}_{\alpha\beta\delta} \ n_{\chi} \ n^{\delta} - \frac{1}{4} \mathcal{A}_{\alpha\delta\beta} \ n_{\chi} \ n^{\delta} + \frac{1}{4} \mathcal{A}_{\beta\delta\alpha} \ n_{\chi} \ n^{\delta} - \frac{3}{8} \mathcal{A}_{\beta\delta\epsilon} \ n_{\alpha\chi} \ n^{\delta} \ n^{\epsilon} + \frac{3}{8} \mathcal{A}_{\alpha\delta\epsilon} \ n_{\beta\chi} \ n^{\delta} \ n^{\epsilon} - \frac{3}{8} \mathcal{A}_{\beta\delta\epsilon} \ n_{\alpha} \ n_{\chi} \ n^{\delta} \ n^{\epsilon} + \frac{3}{8} \mathcal{A}_{\alpha\delta\epsilon} \ n_{\beta} \ n_{\chi} \ n^{\delta} \ n^{\epsilon}$		
⁰⁺ <i>f</i> [∥] St		f^{lpha}_{α} - $f^{lphaeta}_{n_{lpha}}$ n_{lpha} n_{eta}_{eta}	0,+ _T	
0^+f^\perp St	trongGenSet[{},GenSet[]]	$f^{lphaeta}$ n_{lpha} n_{eta}	0+τ-	
$\frac{1}{2} f \ _{\alpha\beta}$ St	trongGenSet[{1, 2}, GenSet[-(1,2)]]	$\frac{f_{\alpha\beta}}{2} - \frac{f_{\beta\alpha}}{2} + \frac{1}{2} f_{\beta}^{X} n_{\alpha} n_{\chi} - \frac{1}{2} f_{\beta}^{X} n_{\alpha} n_{\chi} - \frac{1}{2} f_{\alpha}^{X} n_{\beta} n_{\chi} + \frac{1}{2} f_{\alpha}^{X} n_{\beta} n_{\chi} + \frac{1}{2} f_{\alpha}^{X} n_{\beta} n_{\chi}$	$1^+\tau^{\parallel}_{\alpha\beta}$	
$1_{f^{\parallel}_{\alpha}}$ St	trongGenSet[{},GenSet[]]	$f^{\beta}_{\alpha} n_{\beta} - f^{\beta \chi} n_{\alpha} n_{\beta} n_{\chi}$	1 _τ " _α	
$^1f^{^1}\alpha$ St	trongGenSet[{},GenSet[]]	$f_{\alpha}^{\ \beta} n_{\beta} - f^{\beta \chi} n_{\alpha} n_{\beta} n_{\chi}$	$^{1}\tau^{\perp}_{\alpha}$	
$2^+f^{\parallel}_{\alpha\beta}$ St	trongGenSet[{1, 2}, GenSet[(1,2)]]	$\frac{f_{\alpha\beta}}{2} + \frac{f_{\beta\alpha}}{2} - \frac{1}{3} f_{\chi}^{\chi} \eta_{\alpha\beta} + \frac{1}{3} f_{\chi}^{\chi} n_{\alpha} n_{\beta} - \frac{1}{2} f_{\beta}^{\chi} n_{\alpha} n_{\chi} - \frac{1}{2} f_{\beta}^{\chi} n_{\alpha} n_{\chi} - \frac{1}{2} f_{\alpha}^{\chi} n_{\beta} n_{\chi} - \frac{1}{2} f_{\alpha}^{\chi} n_{\beta} n_{\chi} + \frac{1}{3} f^{\chi\delta} \eta_{\alpha\beta} n_{\chi} n_{\delta} + \frac{2}{3} f^{\chi\delta} n_{\alpha} n_{\beta} n_{\chi} n_{\delta} + \frac{2}{3} f^{\chi\delta} n_{\alpha} n_{\gamma} n_{\delta} + \frac{2}{3} f^{\chi\delta} n_{\alpha} n_{\gamma} n_{\delta} + \frac{2}{3} f^{\chi\delta} n_{\alpha} n_{\gamma} n_{\delta} n_{\gamma} n_{\delta} + \frac{2}{3} f^{\chi\delta} n_{\alpha} n_{\gamma} n_{\delta} n_{\gamma} n_{\delta} + \frac{2}{3} f^{\chi\delta} n_{\alpha} n_{\gamma} n_{\delta} n_{\gamma}$	$\left\ \stackrel{2^+}{\cdot}_{\tau} \right\ _{\alpha\beta}$	