Wave operator and propagator Join[MapThread MapThread[xAct`PSALTer`Private`WignerGrid[{{#1}, {#2}, {#3}, {#4}, {#5}}], Grid[MapThread[(If[#1 == Null, Null, #1, #1] &)[If[#2, #1, Null]] &, {MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[$\{BlockDiagonalMatrix[Flatten[0,3]], BlockDiagonalMatrix[Flatten[False,3]]\}, 2], \{AspectRatio \rightarrow Automatic\}\}, \ Join[530, \{AspectRatio \rightarrow Automatic\}], \ Join[530, \{AspectRatio \rightarrow Automatic}], \ Join[530, \{Asp$ xAct`PSALTer`Private`GraphicsCollage Join xAct`PSALTer`Private`MassiveGhost[#1, #2, #3]] &, Background → {None, None, $\{\}\}$, Frame → {None, None, $\{\}\}$,

 $If[!\#1 === \{\}, xAct`PSALTer`Private`PrintParticle [First[\#1], First [\#2], \#4, \#3, 2 \#4+1], 0] \&, first [\#2], \#4, \#3, 2 \#4+1], 0] \&, first [\#2], \#4, \#3, 2 \#4+1], 0] \&, first [\#2], \#4, \#3, 2 \#4+1], 0] \&, first [\#2], \#4, \#3, 2 \#4+1], 0] \&, first [\#3], first [\#4], \#4, \#5, 2 \#4+1], 0] \&, first [\#4], first [\#4], \#4, \#5, 2 \#4+1], 0] \&, first [\#4], first [\#4], \#4, \#5, 2 \#4+1], 0] \&, first [\#4], first [\#4], \#4, \#5, 2 \#4+1], 0] \&, first [\#4], first [\#4], \#4, \#5, 2 \#4+1], 0] \&, first [\#4], fi$ Alignment → {Center, Center, {}}, ItemSize → Full]] 1], {{}, {{}}, {{}}, {{}}}, 2], {{}}, {{}}, {Even, Odd}, {0, 0}}], {{}} Quartic pole Hexic pole Pole residue: $\emptyset < \{\{1\}, \{1\}\}$.Replace[xAct`PSALTer`Private`MakeSaturatedMatrix[Pole residue: $\emptyset < \{\{1\}, \{1\}\}$.Replace[xAct`PSALTer`Private`MakeSaturatedMatrix[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, {xAct`PSALTer`Private`Repartition[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], 10,ExpandAll → False], 10, ExpandAll → False], 10, ExpandAll → False], 10, ExpandAll → False] 200], xAct`PSALTer`Private`Repartition[200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], xAct`PSALTer`Private`ClassName, {}]], {}]]}]], IdentityMatrix[]],MapThread[#1 \rightarrow #2&, IdentityMatrix[]],MapThread[#1 \rightarrow #2&, Massless particle {Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[{Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[Pole residue: {{1}, {1}}.Replace[xAct`PSALTer`Private`MakeSaturatedMatrix[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &. Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[10,ExpandAll → False], 10, ExpandAll → False], 10,ExpandAll → False], 10, ExpandAll → False], Flatten[$\{\}$, $\{1, 2\}$], 1], 10, ExpandAll \rightarrow False], 10, 200], xAct`PSALTer`Private`Repartition[200], xAct`PSALTer`Private`Repartition[ExpandAll → False1, 2001, xAct`PSALTer`Private`Repartition xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[Join[{},Gather xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], xAct`PSALTer`Private`ClassName, {}]], {}]]}]]], {}}], {2}]. {{1}, {1}} && {{1}}, {1}} Replace[{}}], {2}].{{1}, {1}} && {{1}, {1}}.Replace[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], IdentityMatrix[]],MapThread[#1 \rightarrow #2&, xAct`PSALTer`Private`MakeSaturatedMatrix[xAct`PSALTer`Private`MakeSaturatedMatrix[{Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[Total[Total[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, MapThread[MapThread[$\{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[$ xAct`PSALTer`Private`PSALTerParallelSubmit[xAct`PSALTer`Private`PSALTerParallelSubmit[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &,

xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], {xAct`PSALTer`Private`Repartition[{xAct`PSALTer`Private`Repartition[10,ExpandAll → False], 10, ExpandAll → False], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`MakeFreeSourceVariables[$10, ExpandAll \rightarrow False$], 10, ExpandAll → False], 10, ExpandAll → False], 10, ExpandAll → False] IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[200], xAct`PSALTer`Private`Repartition[200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`ClassName, {}]], xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[$\{\}]]\}]], \{\}\}], \{2\}], \{\{1\}, \{1\}\} > 0$ IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], xAct`PSALTer`Private`ClassName, {}]], {}]]}]], Polarisations: IdentityMatrix[]],MapThread[#1 \rightarrow #2&, IdentityMatrix[]],MapThread[#1 \rightarrow #2&, {Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[$\{Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[$ xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]]&, {xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[$\{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[$ xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], 10,ExpandAll → False], 10, ExpandAll → False], 10,ExpandAll → False], 10, ExpandAll → False], 200], xAct`PSALTer`Private`Repartition[200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[

IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[

IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[

xAct`PSALTer`Private`ClassName, {}]], {}],

xAct`PSALTer`Private`MakeFreeSourceVariables[

xAct`PSALTer`Private`ClassName, {}]],

 $\{\}]]\}]], \{\}\}], \{2\}]. \{\{1\}, \{1\}\} > 0$

Polarisations:

Massive and massless spectra

xAct`PSALTer`Private`GraphicsCollage

Quartic pole Hexic pole Pole residue: $\emptyset < \{\{1\}, \{1\}\}$.Replace[xAct`PSALTer`Private`MakeSaturatedMatrix[Pole residue: $\emptyset < \{\{1\}, \{1\}\}$.Replace[xAct`PSALTer`Private`MakeSaturatedMatrix[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, {xAct`PSALTer`Private`Repartition[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], 10, ExpandAll → False], 10, ExpandAll → False], 10, ExpandAll → False], 10, ExpandAll → False], 200], xAct`PSALTer`Private`Repartition[200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], xAct`PSALTer`Private`ClassName, {}]], {}]]}]], IdentityMatrix[]],MapThread[#1 \rightarrow #2&, IdentityMatrix[]],MapThread[#1 \rightarrow #2&, Massless particle {Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[{Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[Pole residue: {{1}, {1}}.Replace[xAct`PSALTer`Private`MakeSaturatedMatrix[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[$\{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[$ xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[10,ExpandAll → False], 10, ExpandAll → False], 10,ExpandAll → False], 10, ExpandAll → False], Flatten[$\{\}$, $\{1, 2\}$], 1], 10, ExpandAll \rightarrow False], 10, 200], xAct`PSALTer`Private`Repartition[200], xAct`PSALTer`Private`Repartition[ExpandAll → False], 200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`ClassName, {}]], {}], $If[!\#1 === \{\}, xAct`PSALTer`Private`PrintParticle [First[\#1], First [\#2], \#4, \#3, 2 \#4+1], 0] \&, the substitute of the private is a substitute of the sub$ xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[{MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[, Join[{},Gather[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`MassiveGhost[#1, #2, #3]] &, xAct`PSALTer`Private`ClassName, {}]], {}]]}]]], xAct`PSALTer`Private`ClassName, {}]], {}]]}]], IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], {}}], {2}].{{1}, {1}} && {{1}, {1}}.Replace[{}}], {2}].{{1}, {1}} && {{1}, {1}}.Replace[1], {{}, {{}}, {{}}, {{}}}, 2], {{}}, {{}}, {{Even, Odd}}, {0, 0}}, {{}} IdentityMatrix[]],MapThread[#1 \rightarrow #2&, xAct`PSALTer`Private`MakeSaturatedMatrix[xAct`PSALTer`Private`MakeSaturatedMatrix[{Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[Total[Total[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, MapThread[MapThread[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`PSALTerParallelSubmit[xAct`PSALTer`Private`PSALTerParallelSubmit[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], {xAct`PSALTer`Private`Repartition[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[10, ExpandAll \rightarrow False], 10, ExpandAll \rightarrow False], 200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`MakeFreeSourceVariables[10, ExpandAll → False], 10, ExpandAll → False], 10, ExpandAll → False], 10, ExpandAll → False], IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[200], xAct`PSALTer`Private`Repartition[200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`ClassName, {}]], xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[$\{\}\}\}\}, \{\}\}, \{2\}, \{\{1\}, \{1\}\} > 0$ IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], xAct`PSALTer`Private`ClassName, {}]], {}]]}]], Polarisations: 1 IdentityMatrix[]],MapThread[#1 \rightarrow #2&, IdentityMatrix[]],MapThread[#1 \rightarrow #2&, {Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[$\{Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[$ xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, {xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], 10,ExpandAll \rightarrow False], 10, ExpandAll \rightarrow False], 10, ExpandAll → False], 10, ExpandAll → False], 200], xAct`PSALTer`Private`Repartition[200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[

Polarisations:

Polarisations:

If[!#1 === {}, xAct`PSALTer`Private`PrintParticle [First[#1], First [#2], #4, #3, 2 #4+1], 0] &, $\label{eq:Join} \mbox{Join} \left[\mbox{530, {AspectRatio} \rightarrow Automatic} \right], \left\{ \begin{array}{l} \mbox{\begin{tabular}{l} {\tt MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[and the context of t$ xAct`PSALTer`Private`MassiveGhost[#1, #2, #3]] &, $\{ \texttt{MapThread}[\texttt{ConstantArray}[\sharp 1, \texttt{Length}[\sharp 2]] \&, \{ \texttt{MapThread}[\texttt{Times}, \{ \texttt{Flatten}[\{ \}, \{ 1, 2 \}], \{ \} \}, \{ \} \}, \{ \} \}, \} \} \}$ 1], {{}, {{}}, {{}}, {{}}}, 2], {{}}, {{}}, {Even, Odd}, {0, 0}}], {{}}

Quartic pole Hexic pole Pole residue: $\phi < \{\{1\}, \{1\}\}$.Replace[xAct`PSALTer`Private`MakeSaturatedMatrix[Pole residue: $\phi < \{\{1\}, \{1\}\}$.Replace[xAct`PSALTer`Private`MakeSaturatedMatrix[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, {xAct`PSALTer`Private`Repartition[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], 10, ExpandAll → False], 10, ExpandAll → False], $10, ExpandAll \rightarrow False$], 10, ExpandAll → False], 200], xAct`PSALTer`Private`Repartition[200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[Identity Matrix [xAct`PSALTer`Private`Rescale Null Vector[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], IdentityMatrix[]],MapThread[#1 \rightarrow #2&, IdentityMatrix[]],MapThread[#1 \rightarrow #2&, Massless particle {Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[Pole residue: {{1}, {1}}.Replace[xAct`PSALTer`Private`MakeSaturatedMatrix[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[10,ExpandAll → False], 10, ExpandAll → False], Flatten[$\{\}, \{1, 2\}\}, 1\}, 10$, ExpandAll \rightarrow False], 10, 2001, xAct`PSALTer`Private`Repartition[2001, xAct`PSALTer`Private`Repartition[ExpandAll → False], 200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`MakeFreeSourceVariables[Join[{},Gather xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[{}}], {2}].{{1}, {1}} && {{1}}, {1}} Replace[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], {}}], {2}].{{1}, {1}} && {{1}, {1}}.Replace[xAct`PSALTer`Private`MakeSaturatedMatrix[xAct`PSALTer`Private`MakeSaturatedMatrix[IdentityMatrix[]],MapThread[#1 \rightarrow #2&. {Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[Total[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]]&, MapThread[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[xAct`PSALTer`Private`PSALTerParallelSubmit[{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[$xAct`PSALTer`Private`ConstrainInLightcone[\#1,\#2]]\,\&,\\$ xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], {xAct`PSALTer`Private`Repartition[{xAct`PSALTer`Private`Repartition[10,ExpandAll → False], 10, ExpandAll → False], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[

xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], 200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables[10, ExpandAll → False], 10, ExpandAll → False], IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables[xAct`PSALTer`Private`ClassName, {}]], {}], IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`ClassName, {}]], xAct`PSALTer`Private`MakeFreeSourceVariables[$\{\}\}\}\}, \{\}\}, \{2\}, \{\{1\}, \{1\}\} > 0$ IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], IdentityMatrix[]],MapThread[#1 \rightarrow #2&, {Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, {xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], 10,ExpandAll → False], 10, ExpandAll → False], 200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]],

Polarisations:

 $\{\}]]\}]]], \{\}\}], \{2\}]. \{\{1\}, \{1\}\} > 0$

Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], {Tally[Total[MapThread[xAct`PSALTer`Private`PSALTerParallelSubmit[xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]]&, {xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], 10,ExpandAll → False], 10, ExpandAll → False], IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}]]]]], xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], 10, ExpandAll → False], 10, ExpandAll → False], 200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}]]}]], IdentityMatrix[]],MapThread[#1 \rightarrow #2&, $\{ Tally [Total [MapThread [xAct`PSALTer`Private`PSALTerParallelSubmit[$ xAct`PSALTer`Private`ConstrainInLightcone[#1, #2]] &, $\{xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[$ xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`Repartition[Flatten[{}, {1, 2}], 1], 10,ExpandAll → False], 10, ExpandAll → False], 200], xAct`PSALTer`Private`Repartition[xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], {}], xAct`PSALTer`Private`MakeFreeSourceVariables[IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[xAct`PSALTer`Private`ClassName, {}]], $\{\}\}\}\}, \{\}\}, \{2\}, \{\{1\}, \{1\}\} > 0$ Polarisations:

xAct`PSALTer`Private`ClassName, {}]], {}],

IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[

xAct`PSALTer`Private`MakeFreeSourceVariables

xAct`PSALTer`Private`ClassName, {}]],

 $\{\}\}\}\}, \{\}\}, \{2\}, \{\{1\}, \{1\}\} > 0$

xAct`PSALTer`Private`ClassName, {}]], {}],

Identity Matrix [xAct`PSALTer`Private`Rescale Null Vector[

xAct`PSALTer`Private`MakeFreeSourceVariables[

xAct`PSALTer`Private`ClassName, {}]],

 $\{\}\}\}\}, \{\}\}, \{2\}, \{\{1\}, \{1\}\} > 0$

Polarisations: 1

IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[

IdentityMatrix[xAct`PSALTer`Private`RescaleNullVector[

xAct`PSALTer`Private`ClassName, {}]], {}],

xAct`PSALTer`Private`MakeFreeSourceVariables[

xAct`PSALTer`Private`ClassName, {}]],

 $\{\}]]\}]], \{\}\}], \{2\}]. \{\{1\}, \{1\}\} > 0$

Polarisations: