

```
In[ ]:= Get@FileNameJoin@{NotebookDirectory[], "Calibration.m"};
```

First we import some formatting...

...okay, that's better, from now on any commentary written inside this Calibration.m wrapper will present as blue text (i.e. this text is not part of PSALTer, it is just a use-case). Next we load the PSALTer package:

```
-----  
Package xAct`xPerm` version 1.2.3, {2015, 8, 23}
```

Copyright (C) 2003–2020, Jose M. Martin-Garcia, under the General Public License.

Connecting to external linux executable...

Connection established.

```
-----  
Package xAct`xTensor` version 1.2.0, {2021, 10, 17}
```

Copyright (C) 2002–2021, Jose M. Martin-Garcia, under the General Public License.

```
-----  
Package xAct`xPert` version 1.0.6, {2018, 2, 28}
```

Copyright (C) 2005–2020, David Brizuela, Jose M. Martin-Garcia

and Guillermo A. Mena Marugan, under the General Public License.

** Variable \$PrePrint assigned value ScreenDollarIndices

** Variable \$CovDFormat changed from Prefix to Postfix

** Option AllowUpperDerivatives of ContractMetric changed from False to True

** Option MetricOn of MakeRule changed from None to All

** Option ContractMetrics of MakeRule changed from False to True

```
-----  
Package xAct`Invar` version 2.0.5, {2013, 7, 1}
```

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D. Yllanes and R. Portugal, under the General Public License.

** DefConstantSymbol: Defining constant symbol sigma.

** DefConstantSymbol: Defining constant symbol dim.

** Option CurvatureRelations of DefCovD changed from True to False

** Variable \$CommuteCovDsOnScalars changed from True to False

```
-----  
Package xAct`xCoba` version 0.8.6, {2021, 2, 28}
```

Copyright (C) 2005–2021, David Yllanes and

Jose M. Martin-Garcia, under the General Public License.

```
-----
Package xAct`SymManipulator` version 0.9.5, {2021, 9, 14}
Copyright (C) 2011–2021, Thomas Bäckdahl, under the General Public License.
```

```
-----
Package xAct`xTras` version 1.4.2, {2014, 10, 30}
Copyright (C) 2012–2014, Teake Nutma, under the General Public License.
** Variable $CovDFormat changed from Postfix to Prefix
** Option CurvatureRelations of DefCovD changed from False to True
```

```
-----
Package xAct`PSALter` version 1.0.0-developer, {2023, 4, 12}
Copyright © 2022, Will E. V. Barker, Claire
Rigouzzo and Cillian Rew, under the General Public License.
```

```
-----
These packages come with ABSOLUTELY NO WARRANTY; for details type
Disclaimer[]. This is free software, and you are welcome to redistribute
it under certain conditions. See the General Public License for details.
```

```
-----
** BuildPSALter: A rebuild of the
context binaries was requested by an edit to PSALter.m...
** DefManifold: Defining manifold M4.
** DefVBundle: Defining vbundle TangentM4.
** DefTensor: Defining symmetric metric tensor G[-a, -c].
** DefTensor: Defining antisymmetric tensor epsilonG[-a, -b, -c, -d].
** DefTensor: Defining tetrametric TetraG[-a, -b, -c, -d].
** DefTensor: Defining tetrametric TetraG†[-a, -b, -c, -d].
** DefCovD: Defining covariant derivative CD[-a].
** DefTensor: Defining vanishing torsion tensor TorsionCD[a, -b, -c].
** DefTensor: Defining symmetric Christoffel tensor ChristoffelCD[a, -b, -c].
** DefTensor: Defining vanishing Riemann tensor RiemannCD[-a, -b, -c, -d].
** DefTensor: Defining vanishing Ricci tensor RicciCD[-a, -b].
** DefTensor: Defining vanishing Ricci scalar RicciScalarCD[].
** DefTensor: Defining vanishing Einstein tensor EinsteinCD[-a, -b].
** DefTensor: Defining vanishing Weyl tensor WeylCD[-a, -b, -c, -d].
** DefTensor: Defining vanishing TFRicci tensor TFRicciCD[-a, -b].
```

```

** DefTensor: Defining vanishing Kretschmann scalar KretschmannCD[].
** DefTensor: Defining vanishing symmetrized Riemann tensor SymRiemannCD[-a, -b, -c, -d].
** DefTensor: Defining vanishing symmetric Schouten tensor SchoutenCD[-a, -b].
** DefTensor: Defining symmetric cosmological Schouten tensor SchoutenCCCD[LI[_], -a, -b].
** DefTensor: Defining symmetric cosmological Einstein tensor EinsteinCCCD[LI[_], -a, -b].
** DefTensor: Defining weight +2 density DetG[]. Determinant.
** DefTensor: Defining tensor V[-a].

Rules {1, 2} have been declared as UpValues for V.

** DefTensor: Defining tensor Eps[-a, -b, -c].
** DefConstantSymbol: Defining constant symbol Def.
** DefTensor: Defining tensor P[i].

Rules {1} have been declared as UpValues for P.

** DefBasis: Defining basis cartesian.
** DefCovD: Defining parallel derivative PDcartesian[-a].
** DefTensor: Defining torsion tensor TorsionPDcartesian[a, -b, -c].
** DefTensor: Defining non-symmetric Christoffel tensor ChristoffelPDcartesian[a, -b, -c].
** DefTensor: Defining vanishing Riemann tensor RiemannPDcartesian[-a, -b, -c, d].
** DefTensor: Defining vanishing Ricci tensor RicciPDcartesian[-a, -b].
** DefTensor: Defining antisymmetric +1 density etaUpcartesian[a, b, c, d].
** DefTensor: Defining antisymmetric -1 density etaDowncartesian[-a, -b, -c, -d].
** DefConstantSymbol: Defining constant symbol En.
** DefConstantSymbol: Defining constant symbol Mo.

Added independent rule  $k^0 \rightarrow \varepsilon$  for tensor P
Added independent rule  $k^1 \rightarrow 0$  for tensor P
Added independent rule  $k^2 \rightarrow 0$  for tensor P
Added independent rule  $k^3 \rightarrow p$  for tensor P
Added independent rule  $k_0 \rightarrow \varepsilon$  for tensor P
Added independent rule  $k_1 \rightarrow 0$  for tensor P
Added independent rule  $k_2 \rightarrow 0$  for tensor P
Added independent rule  $k_3 \rightarrow -p$  for tensor P

```

Added independent rule $\gamma^{00} \rightarrow 1$ for tensor G
 Added independent rule $\gamma^{01} \rightarrow 0$ for tensor G
 Added independent rule $\gamma^{02} \rightarrow 0$ for tensor G
 Added independent rule $\gamma^{03} \rightarrow 0$ for tensor G
 Added dependent rule $\gamma^{10} \rightarrow \gamma^{01}$ for tensor G
 Added independent rule $\gamma^{11} \rightarrow -1$ for tensor G
 Added independent rule $\gamma^{12} \rightarrow 0$ for tensor G
 Added independent rule $\gamma^{13} \rightarrow 0$ for tensor G
 Added dependent rule $\gamma^{20} \rightarrow \gamma^{02}$ for tensor G
 Added dependent rule $\gamma^{21} \rightarrow \gamma^{12}$ for tensor G
 Added independent rule $\gamma^{22} \rightarrow -1$ for tensor G
 Added independent rule $\gamma^{23} \rightarrow 0$ for tensor G
 Added dependent rule $\gamma^{30} \rightarrow \gamma^{03}$ for tensor G
 Added dependent rule $\gamma^{31} \rightarrow \gamma^{13}$ for tensor G
 Added dependent rule $\gamma^{32} \rightarrow \gamma^{23}$ for tensor G
 Added independent rule $\gamma^{33} \rightarrow -1$ for tensor G
 Added independent rule $\gamma_{00} \rightarrow 1$ for tensor G
 Added independent rule $\gamma_{01} \rightarrow 0$ for tensor G
 Added independent rule $\gamma_{02} \rightarrow 0$ for tensor G
 Added independent rule $\gamma_{03} \rightarrow 0$ for tensor G
 Added dependent rule $\gamma_{10} \rightarrow \gamma_{01}$ for tensor G
 Added independent rule $\gamma_{11} \rightarrow -1$ for tensor G
 Added independent rule $\gamma_{12} \rightarrow 0$ for tensor G
 Added independent rule $\gamma_{13} \rightarrow 0$ for tensor G
 Added dependent rule $\gamma_{20} \rightarrow \gamma_{02}$ for tensor G
 Added dependent rule $\gamma_{21} \rightarrow \gamma_{12}$ for tensor G
 Added independent rule $\gamma_{22} \rightarrow -1$ for tensor G

Added independent rule $Y_{23} \rightarrow 0$ for tensor G

Added dependent rule $Y_{30} \rightarrow Y_{03}$ for tensor G

Added dependent rule $Y_{31} \rightarrow Y_{13}$ for tensor G

Added dependent rule $Y_{32} \rightarrow Y_{23}$ for tensor G

Added independent rule $Y_{33} \rightarrow -1$ for tensor G

** DefConstantSymbol: Defining constant symbol X1.

** DefConstantSymbol: Defining constant symbol X1†.

** DefConstantSymbol: Defining constant symbol X2.

** DefConstantSymbol: Defining constant symbol X2†.

** DefConstantSymbol: Defining constant symbol X3.

** DefConstantSymbol: Defining constant symbol X3†.

** DefConstantSymbol: Defining constant symbol X4.

** DefConstantSymbol: Defining constant symbol X4†.

** DefConstantSymbol: Defining constant symbol X5.

** DefConstantSymbol: Defining constant symbol X5†.

** DefConstantSymbol: Defining constant symbol X6.

** DefConstantSymbol: Defining constant symbol X6†.

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** DefConstantSymbol: Defining constant symbol X7†.

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** DefConstantSymbol: Defining constant symbol X8†.

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** DefConstantSymbol: Defining constant symbol X9†.

** DefConstantSymbol: Defining constant symbol X10.

** DefConstantSymbol: Defining constant symbol X10†.

** DefConstantSymbol: Defining constant symbol X11.

** DefConstantSymbol: Defining constant symbol X11†.

** DefConstantSymbol: Defining constant symbol X12.

** DefConstantSymbol: Defining constant symbol X12†.

** DefConstantSymbol: Defining constant symbol X13.

** DefConstantSymbol: Defining constant symbol X13†.

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** DefConstantSymbol: Defining constant symbol X14.  
** DefConstantSymbol: Defining constant symbol X14†.  
** DefConstantSymbol: Defining constant symbol X15.  
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** DefConstantSymbol: Defining constant symbol X16†.  
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** DefConstantSymbol: Defining constant symbol X17†.  
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** DefConstantSymbol: Defining constant symbol X18†.  
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** DefConstantSymbol: Defining constant symbol X19†.  
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** DefConstantSymbol: Defining constant symbol X20†.  
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** DefConstantSymbol: Defining constant symbol X21†.  
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** DefConstantSymbol: Defining constant symbol X22†.  
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** DefConstantSymbol: Defining constant symbol X23†.  
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** DefConstantSymbol: Defining constant symbol X24†.  
** DefConstantSymbol: Defining constant symbol X25.  
** DefConstantSymbol: Defining constant symbol X25†.  
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** DefConstantSymbol: Defining constant symbol X26†.  
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** DefConstantSymbol: Defining constant symbol X28†.  
** DefConstantSymbol: Defining constant symbol X29.  
** DefConstantSymbol: Defining constant symbol X29†.
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** DefConstantSymbol: Defining constant symbol X30.  
** DefConstantSymbol: Defining constant symbol X30†.  
** DefConstantSymbol: Defining constant symbol X31.  
** DefConstantSymbol: Defining constant symbol X31†.  
** DefConstantSymbol: Defining constant symbol X32.  
** DefConstantSymbol: Defining constant symbol X32†.  
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** DefConstantSymbol: Defining constant symbol X34.  
** DefConstantSymbol: Defining constant symbol X34†.  
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** DefConstantSymbol: Defining constant symbol X36†.  
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** DefConstantSymbol: Defining constant symbol X37†.  
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** DefConstantSymbol: Defining constant symbol X40†.  
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** DefConstantSymbol: Defining constant symbol X41†.  
** DefConstantSymbol: Defining constant symbol X42.  
** DefConstantSymbol: Defining constant symbol X42†.  
** DefConstantSymbol: Defining constant symbol X43.  
** DefConstantSymbol: Defining constant symbol X43†.  
** DefConstantSymbol: Defining constant symbol X44.  
** DefConstantSymbol: Defining constant symbol X44†.  
** DefConstantSymbol: Defining constant symbol X45.  
** DefConstantSymbol: Defining constant symbol X45†.
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** DefConstantSymbol: Defining constant symbol X46.  
** DefConstantSymbol: Defining constant symbol X46†.  
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** DefConstantSymbol: Defining constant symbol X47†.  
** DefConstantSymbol: Defining constant symbol X48.  
** DefConstantSymbol: Defining constant symbol X48†.  
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** DefConstantSymbol: Defining constant symbol X49†.  
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** DefConstantSymbol: Defining constant symbol X50†.  
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** DefConstantSymbol: Defining constant symbol X51†.  
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** DefConstantSymbol: Defining constant symbol X52†.  
** DefConstantSymbol: Defining constant symbol X53.  
** DefConstantSymbol: Defining constant symbol X53†.  
** DefConstantSymbol: Defining constant symbol X54.  
** DefConstantSymbol: Defining constant symbol X54†.  
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** DefConstantSymbol: Defining constant symbol X56†.  
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** DefConstantSymbol: Defining constant symbol X57†.  
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** DefConstantSymbol: Defining constant symbol X58†.  
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** DefConstantSymbol: Defining constant symbol X59†.  
** DefConstantSymbol: Defining constant symbol X60.  
** DefConstantSymbol: Defining constant symbol X60†.  
** DefConstantSymbol: Defining constant symbol X61.  
** DefConstantSymbol: Defining constant symbol X61†.
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** DefConstantSymbol: Defining constant symbol X62.
** DefConstantSymbol: Defining constant symbol X62†.
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** DefConstantSymbol: Defining constant symbol X63†.
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** DefConstantSymbol: Defining constant symbol X64†.
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** DefConstantSymbol: Defining constant symbol X66†.
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** DefConstantSymbol: Defining constant symbol X68†.
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** DefConstantSymbol: Defining constant symbol X69†.
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** DefConstantSymbol: Defining constant symbol X70†.
** DefConstantSymbol: Defining constant symbol X71.
** DefConstantSymbol: Defining constant symbol X71†.
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** DefConstantSymbol: Defining constant symbol X72†.
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** DefConstantSymbol: Defining constant symbol X73†.
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** DefConstantSymbol: Defining constant symbol X74†.
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** DefConstantSymbol: Defining constant symbol X75†.
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** DefConstantSymbol: Defining constant symbol X76†.
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** DefConstantSymbol: Defining constant symbol X77†.

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** DefConstantSymbol: Defining constant symbol X78.  
** DefConstantSymbol: Defining constant symbol X78†.  
** DefConstantSymbol: Defining constant symbol X79.  
** DefConstantSymbol: Defining constant symbol X79†.  
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** DefConstantSymbol: Defining constant symbol X80†.  
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** DefConstantSymbol: Defining constant symbol X81†.  
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** DefConstantSymbol: Defining constant symbol X82†.  
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** DefConstantSymbol: Defining constant symbol X84†.  
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** DefConstantSymbol: Defining constant symbol X90†.  
** DefConstantSymbol: Defining constant symbol X91.  
** DefConstantSymbol: Defining constant symbol X91†.  
** DefConstantSymbol: Defining constant symbol X92.  
** DefConstantSymbol: Defining constant symbol X92†.  
** DefConstantSymbol: Defining constant symbol X93.  
** DefConstantSymbol: Defining constant symbol X93†.
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** DefConstantSymbol: Defining constant symbol X94.
** DefConstantSymbol: Defining constant symbol X94†.
** DefConstantSymbol: Defining constant symbol X95.
** DefConstantSymbol: Defining constant symbol X95†.
** DefConstantSymbol: Defining constant symbol X96.
** DefConstantSymbol: Defining constant symbol X96†.
** DefConstantSymbol: Defining constant symbol X97.
** DefConstantSymbol: Defining constant symbol X97†.
** DefConstantSymbol: Defining constant symbol X98.
** DefConstantSymbol: Defining constant symbol X98†.
** DefConstantSymbol: Defining constant symbol X99.
** DefConstantSymbol: Defining constant symbol X99†.
** DefConstantSymbol: Defining constant symbol X100.
** DefConstantSymbol: Defining constant symbol X100†.
** DefTensor: Defining tensor Phi[].
** DefTensor: Defining tensor Phi†[].
** DefTensor: Defining tensor Rho[].
** DefTensor: Defining tensor Rho†[].
** DefTensor: Defining tensor Phi0p[].
** DefTensor: Defining tensor Phi0p†[].
** DefTensor: Defining tensor Rho0p[].
** DefTensor: Defining tensor Rho0p†[].
** DefConstantSymbol: Defining constant symbol Coupling1.
** DefConstantSymbol: Defining constant symbol Coupling2.
** DefConstantSymbol: Defining constant symbol Coupling3.
** DefClass: The information presented below will be stored in the association
  ScalarTheory, so you will be able to recover it later in your session by typing "
  ScalarTheory[<--some_association_key-->]".

** xAct`PSALter`Private`Diagnostic: the value of the
  variable xAct`PSALter`Private`EvenEven$7556 will now be printed.
{{0+·φ·0+·φ†}}

** xAct`PSALter`Private`Diagnostic: the value of the
  variable xAct`PSALter`Private`EvenOdd$7556 will now be printed.

```

```

{}

** xAct`PSALTER`Private`Diagnostic: the value of the
variable xAct`PSALTER`Private`OddEven$7556 will now be printed.

{}

** xAct`PSALTER`Private`Diagnostic: the value of
the variable xAct`PSALTER`Private`OddOdd$7556 will now be printed.

{}

** xAct`PSALTER`Private`Diagnostic: the value of the variable
xAct`PSALTER`Private`InvariantMatrixValue$7556[xAct`PSALTER`Private`Spin]
will now be printed.

(( $\varphi^{\theta^+} \varphi^{\theta^+} \varphi^\dagger$ ))

** xAct`PSALTER`Private`Diagnostic: the value of the variable
xAct`PSALTER`Private`MaskMatrixValue$7556[xAct`PSALTER`Private`Spin]
will now be printed.

(1)

** xAct`PSALTER`Private`Diagnostic: the value of the variable
xAct`PSALTER`Private`AntiMaskMatrixValue$7556[xAct`PSALTER`Private`Spin]
will now be printed.

<|Even  $\rightarrow$  {1}, Odd  $\rightarrow$  {0}|>

** xAct`PSALTER`Private`Diagnostic:
the value of the variable hi there will now be printed.

hi there

** xAct`PSALTER`Private`Diagnostic: the value of
the variable xAct`PSALTER`Private`Expr$7605 will now be printed.

 $\varphi^{\theta^+} \varphi^{\theta^+} \varphi^\dagger$ 

** xAct`PSALTER`Private`Diagnostic: the value of the
variable xAct`PSALTER`Private`OriginalTerms$7605 will now be printed.

{ $\varphi \varphi^\dagger$ }

** xAct`PSALTER`Private`Diagnostic: the value of
the variable xAct`PSALTER`Private`Expr$7605 will now be printed.

 $\varphi^{\theta^+} \varphi^{\theta^+} \varphi^\dagger - \varphi \varphi^\dagger$ 

** xAct`PSALTER`Private`Diagnostic: the value of
the variable xAct`PSALTER`Private`Expr$7605 will now be printed.

Phi0pRescalingSymbol2  $\varphi^{\theta^+} \varphi^{\theta^+} \varphi^\dagger - \varphi \varphi^\dagger$ 

** xAct`PSALTER`Private`Diagnostic: the value of
the variable xAct`PSALTER`Private`Expr$7605 will now be printed.

```

```

(-1+Phi0pRescalingSymbol^2)ϕϕ†

** xAct`PSALter`Private`Diagnostic: the value of the variable
    xAct`PSALter`Private`SystemOfEquations$7605 will now be printed.
-1+Phi0pRescalingSymbol^2 == 0

** xAct`PSALter`Private`Diagnostic: the value of the variable
    xAct`PSALter`Private`RescalingSolutionsValue will now be printed.
{Phi0pRescalingSymbol → -1}

** DefClass: Exporting the binary at ScalarTheory.cla.mx

** DefTensor: Defining tensor B[-d].

** DefTensor: Defining tensor B†[-d].

** DefTensor: Defining tensor J[-d].

** DefTensor: Defining tensor J†[-d].

** DefTensor: Defining tensor ProjPerp[-a, -b].

** DefTensor: Defining tensor ProjPara[-a, -b].

** DefTensor: Defining tensor B0p[].

** DefTensor: Defining tensor B0p†[].

** DefTensor: Defining tensor B1m[-a].

** DefTensor: Defining tensor B1m†[-a].

** DefTensor: Defining tensor J0p[].

** DefTensor: Defining tensor J0p†[].

** DefTensor: Defining tensor J1m[-a].

** DefTensor: Defining tensor J1m†[-a].

** DefConstantSymbol: Defining constant symbol Coupling1.

** DefConstantSymbol: Defining constant symbol Coupling2.

** DefConstantSymbol: Defining constant symbol Coupling3.

** DefClass: The information presented below will be stored in the association
    VectorTheory, so you will be able to recover it later in your session by typing "
    VectorTheory[<--some_association_key-->]".

** xAct`PSALter`Private`Diagnostic: the value of the
    variable xAct`PSALter`Private`EvenEven$7970 will now be printed.
{{ $\begin{smallmatrix} 0^+ \\ \cdot \end{smallmatrix} \mathcal{B} \begin{smallmatrix} 0^+ \\ \cdot \end{smallmatrix} \mathcal{B}^\dagger \end{smallmatrix}}}$ 

** xAct`PSALter`Private`Diagnostic: the value of the
    variable xAct`PSALter`Private`EvenOdd$7970 will now be printed.

{}

```

```

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`OddEven$7970 will now be printed.
{}

** xAct`PSALter`Private`Diagnostic: the value of
the variable xAct`PSALter`Private`OddOdd$7970 will now be printed.
{}

** xAct`PSALter`Private`Diagnostic: the value of the variable
xAct`PSALter`Private`InvariantMatrixValue$7970[xAct`PSALter`Private`Spin]
will now be printed.
(( $\begin{smallmatrix} 0 & 0 \\ \cdot & \cdot \end{smallmatrix} \mathcal{B} \uparrow$ ))

** xAct`PSALter`Private`Diagnostic: the value of the variable
xAct`PSALter`Private`MaskMatrixValue$7970[xAct`PSALter`Private`Spin]
will now be printed.
(1)

** xAct`PSALter`Private`Diagnostic: the value of the variable
xAct`PSALter`Private`AntiMaskMatrixValue$7970[xAct`PSALter`Private`Spin]
will now be printed.
<|Even → {1}, Odd → {0}|>

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`EvenEven$7970 will now be printed.
{}

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`EvenOdd$7970 will now be printed.
{}

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`OddEven$7970 will now be printed.
{}

** xAct`PSALter`Private`Diagnostic: the value of
the variable xAct`PSALter`Private`OddOdd$7970 will now be printed.
{{( $\begin{smallmatrix} 1 & 0 \\ \cdot & \cdot \end{smallmatrix} \mathcal{B} \uparrow$   $\begin{smallmatrix} 1 & 0 \\ \cdot & \cdot \end{smallmatrix} \mathcal{B} \uparrow_a$ )}}
```

** xAct`PSALter`Private`Diagnostic: the value of the variable
 xAct`PSALter`Private`MaskMatrixValue\$7970[xAct`PSALter`Private`Spin]
 will now be printed.

(1)

** xAct`PSALter`Private`Diagnostic: the value of the variable
 xAct`PSALter`Private`AntiMaskMatrixValue\$7970[xAct`PSALter`Private`Spin]
 will now be printed.

<|Even → {0}, Odd → {1}|>

** xAct`PSALter`Private`Diagnostic:
 the value of the variable hi there will now be printed.

hi there

** xAct`PSALter`Private`Diagnostic: the value of
 the variable xAct`PSALter`Private`Expr\$8056 will now be printed.

$$B^0 B^0 \uparrow + B^1 B^0 \quad B^1 B^0 \uparrow_a$$

** xAct`PSALter`Private`Diagnostic: the value of the
 variable xAct`PSALter`Private`OriginalTerms\$8056 will now be printed.

$$\{B^0 B^0 \uparrow_a\}$$

** xAct`PSALter`Private`Diagnostic: the value of
 the variable xAct`PSALter`Private`Expr\$8056 will now be printed.

$$B^0 B^0 \uparrow + B^1 B^0 \quad B^1 B^0 \uparrow_a - B^0 B^0 \uparrow_a$$

** xAct`PSALter`Private`Diagnostic: the value of
 the variable xAct`PSALter`Private`Expr\$8056 will now be printed.

$$B0pRescalingSymbol^2 B^0 B^0 \uparrow + B1mRescalingSymbol^2 B^1 B^0 \quad B^1 B^0 \uparrow_a - B^0 B^0 \uparrow_a$$

** xAct`PSALter`Private`Diagnostic: the value of
 the variable xAct`PSALter`Private`Expr\$8056 will now be printed.

$$(-1 + B1mRescalingSymbol^2) B^0 B^0 \uparrow_a + (B0pRescalingSymbol^2 - B1mRescalingSymbol^2) B^0 B^0 \uparrow^b n_a n_b$$

** xAct`PSALter`Private`Diagnostic: the value of the variable
 xAct`PSALter`Private`SystemOfEquations\$8056 will now be printed.

$$B0pRescalingSymbol^2 - B1mRescalingSymbol^2 == 0 \&\& -1 + B1mRescalingSymbol^2 == 0$$

** xAct`PSALter`Private`Diagnostic: the value of the variable
 xAct`PSALter`Private`RescalingSolutionsValue will now be printed.

$$\{B0pRescalingSymbol \rightarrow -1, B1mRescalingSymbol \rightarrow -1\}$$

** DefClass: Exporting the binary at VectorTheory.cla.mx

** DefTensor: Defining tensor LinearMetric[-a, -b].

** DefTensor: Defining tensor LinearMetric†[-a, -b].

```

** DefTensor: Defining tensor StressEnergy[-a, -b].
** DefTensor: Defining tensor StressEnergy†[-a, -b].
** DefTensor: Defining tensor Q[-i, -j, -a].
** DefTensor: Defining tensor Q†[-i, -j, -a].
** DefTensor: Defining tensor Z[-i, -j, -a].
** DefTensor: Defining tensor Z†[-i, -j, -a].
** DefTensor: Defining tensor totsyzmQZ[k, l, b, -i, -j, -a].
** DefTensor: Defining tensor remsyzmQZ[k, l, b, -i, -j, -a].
    Rules {1} have been declared as DownValues for totsyzmQZ.
    Rules {1} have been declared as DownValues for remsyzmQZ.
** DefTensor: Defining tensor ProjPerp[-a, -b].
** DefTensor: Defining tensor ProjPara[-a, -b].
    Rules {1} have been declared as DownValues for ProjPerp.
    Rules {1} have been declared as DownValues for ProjPara.
** DefTensor: Defining tensor QPerpT0pF[-i, -j, -a].
** DefTensor: Defining tensor QPerpT0pF†[-i, -j, -a].
** DefTensor: Defining tensor QPerpT1mF[-i, -j, -a].
** DefTensor: Defining tensor QPerpT1mF†[-i, -j, -a].
** DefTensor: Defining tensor QPara0pF[-i, -j, -a].
** DefTensor: Defining tensor QPara0pF†[-i, -j, -a].
** DefTensor: Defining tensor QPara2pF[-i, -j, -a].
** DefTensor: Defining tensor QPara2pF†[-i, -j, -a].
** DefTensor: Defining tensor QParaT1mF[-i, -j, -a].
** DefTensor: Defining tensor QParaT1mF†[-i, -j, -a].
** DefTensor: Defining tensor QPara3mF[-i, -j, -a].
** DefTensor: Defining tensor QPara3mF†[-i, -j, -a].
** DefTensor: Defining tensor QPerpH1mF[-i, -j, -a].
** DefTensor: Defining tensor QPerpH1mF†[-i, -j, -a].
** DefTensor: Defining tensor QPara1pF[-i, -j, -a].
** DefTensor: Defining tensor QPara1pF†[-i, -j, -a].
** DefTensor: Defining tensor QPerpH0pF[-i, -j, -a].
** DefTensor: Defining tensor QPerpH0pF†[-i, -j, -a].

```



```

** DefTensor: Defining tensor QPerp2pF[-i, -j, -a].
** DefTensor: Defining tensor QPerp2pF†[-i, -j, -a].
** DefTensor: Defining tensor QParaH1mF[-i, -j, -a].
** DefTensor: Defining tensor QParaH1mF†[-i, -j, -a].
** DefTensor: Defining tensor QPara2mF[-i, -j, -a].
** DefTensor: Defining tensor QPara2mF†[-i, -j, -a].
** DefTensor: Defining tensor ZPerpT0pF[-i, -j, -a].
** DefTensor: Defining tensor ZPerpT0pF†[-i, -j, -a].
** DefTensor: Defining tensor ZPerpT1mF[-i, -j, -a].
** DefTensor: Defining tensor ZPerpT1mF†[-i, -j, -a].
** DefTensor: Defining tensor ZPara0pF[-i, -j, -a].
** DefTensor: Defining tensor ZPara0pF†[-i, -j, -a].
** DefTensor: Defining tensor ZPara2pF[-i, -j, -a].
** DefTensor: Defining tensor ZPara2pF†[-i, -j, -a].
** DefTensor: Defining tensor ZParaT1mF[-i, -j, -a].
** DefTensor: Defining tensor ZParaT1mF†[-i, -j, -a].
** DefTensor: Defining tensor ZPara3mF[-i, -j, -a].
** DefTensor: Defining tensor ZPara3mF†[-i, -j, -a].
** DefTensor: Defining tensor ZPerpH1mF[-i, -j, -a].
** DefTensor: Defining tensor ZPerpH1mF†[-i, -j, -a].
** DefTensor: Defining tensor ZPara1pF[-i, -j, -a].
** DefTensor: Defining tensor ZPara1pF†[-i, -j, -a].
** DefTensor: Defining tensor ZPerpH0pF[-i, -j, -a].
** DefTensor: Defining tensor ZPerpH0pF†[-i, -j, -a].
** DefTensor: Defining tensor ZPerp2pF[-i, -j, -a].
** DefTensor: Defining tensor ZPerp2pF†[-i, -j, -a].
** DefTensor: Defining tensor ZParaH1mF[-i, -j, -a].
** DefTensor: Defining tensor ZParaH1mF†[-i, -j, -a].
** DefTensor: Defining tensor ZPara2mF[-i, -j, -a].
** DefTensor: Defining tensor ZPara2mF†[-i, -j, -a].
** DefTensor: Defining tensor LinearMetricPerp0p[].
** DefTensor: Defining tensor LinearMetricPerp0p†[].

```

```

** DefTensor: Defining tensor LinearMetricPerp1m[-a].
** DefTensor: Defining tensor LinearMetricPerp1mt[-a].
** DefTensor: Defining tensor LinearMetricPara0p[].
** DefTensor: Defining tensor LinearMetricPara0pt[].
** DefTensor: Defining tensor LinearMetricPara2p[-a, -b].
** DefTensor: Defining tensor LinearMetricPara2pt[-a, -b].

Rules {1, 1, 2, 1} have been declared as UpValues for LinearMetricPara2p.
Rules {1, 2} have been declared as DownValues for LinearMetricPara2p.

** DefTensor: Defining tensor StressEnergyPerp0p[].
** DefTensor: Defining tensor StressEnergyPerp0pt[].
** DefTensor: Defining tensor StressEnergyPerp1m[-a].
** DefTensor: Defining tensor StressEnergyPerp1mt[-a].
** DefTensor: Defining tensor StressEnergyPara0p[].
** DefTensor: Defining tensor StressEnergyPara0pt[].
** DefTensor: Defining tensor StressEnergyPara2p[-a, -b].
** DefTensor: Defining tensor StressEnergyPara2pt[-a, -b].

Rules {1, 1, 2, 1} have been declared as UpValues for StressEnergyPara2p.
Rules {1, 2} have been declared as DownValues for StressEnergyPara2p.

** DefTensor: Defining tensor QPerpT0p[].
** DefTensor: Defining tensor QPerpT0pt[].
** DefTensor: Defining tensor QPerpT1m[-i].
** DefTensor: Defining tensor QPerpT1mt[-i].
** DefTensor: Defining tensor QPara0p[].
** DefTensor: Defining tensor QPara0pt[].
** DefTensor: Defining tensor QPara2p[-i, -j].
** DefTensor: Defining tensor QPara2pt[-i, -j].
** DefTensor: Defining tensor QParaT1m[-i].
** DefTensor: Defining tensor QParaT1mt[-i].
** DefTensor: Defining tensor QPara3m[-i, -j, -a].
** DefTensor: Defining tensor QPara3mt[-i, -j, -a].
** DefTensor: Defining tensor QPerpH1m[-i].
** DefTensor: Defining tensor QPerpH1mt[-i].

```

```

** DefTensor: Defining tensor QPara1p[-i, -a].
** DefTensor: Defining tensor QPara1pt[-i, -a].
** DefTensor: Defining tensor QPerpH0p[].
** DefTensor: Defining tensor QPerpH0pt[].
** DefTensor: Defining tensor QPerp2p[-i, -j].
** DefTensor: Defining tensor QPerp2pt[-i, -j].
** DefTensor: Defining tensor QParaH1m[-i].
** DefTensor: Defining tensor QParaH1mt[-i].
** DefTensor: Defining tensor QPara2m[-i, -j, -a].
** DefTensor: Defining tensor QPara2mt[-i, -j, -a].
** DefTensor: Defining tensor ZPerpT0p[].
** DefTensor: Defining tensor ZPerpT0pt[].
** DefTensor: Defining tensor ZPerpT1m[-i].
** DefTensor: Defining tensor ZPerpT1mt[-i].
** DefTensor: Defining tensor ZPara0p[].
** DefTensor: Defining tensor ZPara0pt[].
** DefTensor: Defining tensor ZPara2p[-i, -j].
** DefTensor: Defining tensor ZPara2pt[-i, -j].
** DefTensor: Defining tensor ZParaT1m[-i].
** DefTensor: Defining tensor ZParaT1mt[-i].
** DefTensor: Defining tensor ZPara3m[-i, -j, -a].
** DefTensor: Defining tensor ZPara3mt[-i, -j, -a].
** DefTensor: Defining tensor ZPerpH1m[-i].
** DefTensor: Defining tensor ZPerpH1mt[-i].
** DefTensor: Defining tensor ZPara1p[-i, -a].
** DefTensor: Defining tensor ZPara1pt[-i, -a].
** DefTensor: Defining tensor ZPerpH0p[].
** DefTensor: Defining tensor ZPerpH0pt[].
** DefTensor: Defining tensor ZPerp2p[-i, -j].
** DefTensor: Defining tensor ZPerp2pt[-i, -j].
** DefTensor: Defining tensor ZParaH1m[-i].
** DefTensor: Defining tensor ZParaH1mt[-i].

```

```

** DefTensor: Defining tensor ZPara2m[-i, -j, -a].
** DefTensor: Defining tensor ZPara2mt[-i, -j, -a].
** DefConstantSymbol: Defining constant symbol Coupling1.
** DefConstantSymbol: Defining constant symbol Coupling2.
** DefConstantSymbol: Defining constant symbol Coupling3.
** DefClass: The information presented below will be stored in the association
MetricAffineGaugeTheory
, so you will be able to recover it later in your session by typing "
MetricAffineGaugeTheory[<--some_association_key-->]".
** xAct`PSALTER`Private`Diagnostic: the value of the
variable xAct`PSALTER`Private`EvenEven$38622 will now be printed.
{{0^+h^+ 0^+h^+ t, 0^+h^+ 0^+h^+ t, 0^+h^+ 0^+Q^+t, 0^+h^+ 0^+Q^+l, 0^+h^+ 0^+Q^+h},
{0^+h^+ 0^+h^+ t, 0^+h^+ 0^+h^+ t, 0^+h^+ 0^+Q^+t, 0^+h^+ 0^+Q^+l, 0^+h^+ 0^+Q^+h},
{0^+h^+ 0^+Q^+t t, 0^+h^+ 0^+Q^+t t, 0^+Q^+t 0^+Q^+t t, 0^+Q^+l 0^+Q^+t t, 0^+Q^+h 0^+Q^+t t},
{0^+h^+ 0^+Q^+l t, 0^+h^+ 0^+Q^+l t, 0^+Q^+l 0^+Q^+t t, 0^+Q^+l 0^+Q^+l t, 0^+Q^+l 0^+Q^+h t},
{0^+h^+ 0^+Q^+h t, 0^+h^+ 0^+Q^+h t, 0^+Q^+h 0^+Q^+t t, 0^+Q^+l 0^+Q^+h t, 0^+Q^+h 0^+Q^+h t}}
** xAct`PSALTER`Private`Diagnostic: the value of the
variable xAct`PSALTER`Private`EvenOdd$38622 will now be printed.
{}
** xAct`PSALTER`Private`Diagnostic: the value of the
variable xAct`PSALTER`Private`OddEven$38622 will now be printed.
{}
** xAct`PSALTER`Private`Diagnostic: the value of the
variable xAct`PSALTER`Private`OddOdd$38622 will now be printed.
{}
** xAct`PSALTER`Private`Diagnostic: the value of the variable
xAct`PSALTER`Private`InvariantMatrixValue$38622[xAct`PSALTER`Private`Spin]
will now be printed.
(
0^+h^+ 0^+h^+ t 0^+h^+ 0^+h^+ t 0^+h^+ 0^+Q^+t 0^+h^+ 0^+Q^+l 0^+h^+ 0^+Q^+h
0^+h^+ 0^+h^+ t 0^+h^+ 0^+h^+ t 0^+h^+ 0^+Q^+t 0^+h^+ 0^+Q^+l 0^+h^+ 0^+Q^+h
0^+h^+ 0^+Q^+t t 0^+h^+ 0^+Q^+t t 0^+Q^+t 0^+Q^+t t 0^+Q^+l 0^+Q^+t t 0^+Q^+h 0^+Q^+t t
0^+h^+ 0^+Q^+l t 0^+h^+ 0^+Q^+l t 0^+Q^+l 0^+Q^+t t 0^+Q^+l 0^+Q^+l t 0^+Q^+l 0^+Q^+h t
0^+h^+ 0^+Q^+h t 0^+h^+ 0^+Q^+h t 0^+Q^+h 0^+Q^+t t 0^+Q^+l 0^+Q^+h t 0^+Q^+h 0^+Q^+h t
)
** xAct`PSALTER`Private`Diagnostic: the value of the variable
xAct`PSALTER`Private`MaskMatrixValue$38622[xAct`PSALTER`Private`Spin]
will now be printed.

```

$$\begin{pmatrix} 1 & 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 & 1 \end{pmatrix}$$

** xAct`PSALter`Private`Diagnostic: the value of the variable
xAct`PSALter`Private`AntiMaskMatrixValue\$38622[xAct`PSALter`Private`Spin]
will now be printed.

<|Even → {{1, 1, 1, 1, 1}, {1, 1, 1, 1, 1}, {1, 1, 1, 1, 1}, {1, 1, 1, 1, 1}, {1, 1, 1, 1, 1}},
Odd → {{0, 0, 0, 0, 0}, {0, 0, 0, 0, 0}, {0, 0, 0, 0, 0}, {0, 0, 0, 0, 0}, {0, 0, 0, 0, 0}}|>

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`EvenEven\$38622 will now be printed.

$$\left\{ \left\{ \epsilon^{ab} Q^{\perp}, Q^{\perp} t_{ab} \right\} \right\}$$

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`EvenOdd\$38622 will now be printed.

$$\left\{ \left\{ \epsilon^{abc} h^a Q^{\perp} t^{bc}, \epsilon^{abc} Q^{\perp} t^{bc} Q^{\perp} t^a, \right. \right. \\ \left. \left. \epsilon^{abc} Q^{\perp} t^{bc} Q^{\perp} t^a, \epsilon^{abc} Q^{\perp} t^{bc} Q^{\perp} t^a, \epsilon^{abc} Q^{\perp} t^{bc} Q^{\perp} t^a \right\} \right\}$$

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`OddEven\$38622 will now be printed.

$$\left\{ \left\{ \epsilon^{abc} h^a Q^{\perp} t^{bc}, \epsilon^{abc} Q^{\perp} t^{bc} Q^{\perp} t^a, \right. \right. \\ \left. \left\{ \epsilon^{abc} Q^{\perp} t^{bc} Q^{\perp} t^a, \epsilon^{abc} Q^{\perp} t^{bc} Q^{\perp} t^a, \epsilon^{abc} Q^{\perp} t^{bc} Q^{\perp} t^a \right\} \right\}$$

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`OddOdd\$38622 will now be printed.

$$\left\{ \left\{ h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, \right. \right. \\ \left\{ h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, \right. \\ \left\{ h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, \right. \\ \left\{ h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, \right. \\ \left. \left. \left\{ h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a, h^a Q^{\perp} t_a \right\} \right\} \right\}$$

** xAct`PSALter`Private`Diagnostic: the value of the variable
xAct`PSALter`Private`InvariantMatrixValue\$38622[xAct`PSALter`Private`Spin]
will now be printed.

$$\left(\begin{array}{cccccc} \frac{1}{2} Q^{\perp ab} \frac{1}{2} Q^{\perp} t_{ab} & \epsilon^{\parallel abc} \frac{1}{2} h^{\perp a} \frac{1}{2} Q^{\perp} t^{bc} & \epsilon^{\parallel abc} \frac{1}{2} Q^{\perp} t^{bc} \frac{1}{2} Q^{\perp} t^a & \epsilon^{\parallel abc} \frac{1}{2} Q^{\perp} t^{bc} \frac{1}{2} Q^{\perp} t^a & \epsilon^{\parallel abc} \frac{1}{2} Q^{\perp} t^{bc} \frac{1}{2} Q^{\perp} t^a & \epsilon^{\parallel abc} \frac{1}{2} Q^{\perp} t^{bc} \frac{1}{2} Q^{\perp} t^a \\ \epsilon^{\parallel abc} \frac{1}{2} h^{\perp} t^a \frac{1}{2} Q^{\perp} t^{bc} & \frac{1}{2} h^{\perp a} \frac{1}{2} h^{\perp} t_a & \frac{1}{2} h^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} h^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} h^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} h^{\perp} t^a \frac{1}{2} Q^{\perp} t_a \\ \epsilon^{\parallel abc} \frac{1}{2} Q^{\perp} t^{bc} \frac{1}{2} Q^{\perp} t^a & \frac{1}{2} h^{\perp a} \frac{1}{2} Q^{\perp} t^a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a \\ \epsilon^{\parallel abc} \frac{1}{2} Q^{\perp} t^{bc} \frac{1}{2} Q^{\perp} t^a & \frac{1}{2} h^{\perp a} \frac{1}{2} Q^{\perp} t^a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a \\ \epsilon^{\parallel abc} \frac{1}{2} Q^{\perp} t^{bc} \frac{1}{2} Q^{\perp} t^a & \frac{1}{2} h^{\perp a} \frac{1}{2} Q^{\perp} t^a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a \\ \epsilon^{\parallel abc} \frac{1}{2} Q^{\perp} t^{bc} \frac{1}{2} Q^{\perp} t^a & \frac{1}{2} h^{\perp a} \frac{1}{2} Q^{\perp} t^a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a & \frac{1}{2} Q^{\perp} t^a \frac{1}{2} Q^{\perp} t_a \end{array} \right)$$

** xAct`PSALter`Private`Diagnostic: the value of the variable
xAct`PSALter`Private`MaskMatrixValue\$38622[xAct`PSALter`Private`Spin]
will now be printed.

$$\left(\begin{array}{cccccc} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 1 & 1 & 1 \\ 0 & 1 & 1 & 1 & 1 & 1 \\ 0 & 1 & 1 & 1 & 1 & 1 \\ 0 & 1 & 1 & 1 & 1 & 1 \\ 0 & 1 & 1 & 1 & 1 & 1 \end{array} \right)$$

** xAct`PSALter`Private`Diagnostic: the value of the variable
xAct`PSALter`Private`AntiMaskMatrixValue\$38622[xAct`PSALter`Private`Spin]
will now be printed.

<|Even → {{1, 0, 0, 0, 0, 0}, {0, 0, 0, 0, 0, 0},
{0, 0, 0, 0, 0, 0}, {0, 0, 0, 0, 0, 0}, {0, 0, 0, 0, 0, 0}, {0, 0, 0, 0, 0, 0}},
Odd → {{0, 0, 0, 0, 0, 0}, {0, 1, 1, 1, 1, 1}, {0, 1, 1, 1, 1, 1},
{0, 1, 1, 1, 1, 1}, {0, 1, 1, 1, 1, 1}, {0, 1, 1, 1, 1, 1}}>

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`EvenEven\$38622 will now be printed.

$$\left\{ \left\{ \frac{2}{3} h^{\parallel ab} \frac{2}{3} h^{\parallel} t_{ab}, \frac{2}{3} h^{\parallel} t^{ab} \frac{2}{3} Q^{\parallel} t_{ab}, \frac{2}{3} h^{\parallel} t^{ab} \frac{2}{3} Q^{\perp} t_{ab} \right\}, \left\{ \frac{2}{3} h^{\parallel ab} \frac{2}{3} Q^{\parallel} t_{ab}, \frac{2}{3} Q^{\parallel} t^{ab} \frac{2}{3} Q^{\parallel} t_{ab}, \frac{2}{3} Q^{\parallel} t^{ab} \frac{2}{3} Q^{\perp} t_{ab} \right\}, \right. \\ \left. \left\{ \frac{2}{3} h^{\parallel ab} \frac{2}{3} Q^{\perp} t_{ab}, \frac{2}{3} Q^{\perp} t^{ab} \frac{2}{3} Q^{\perp} t_{ab}, \frac{2}{3} Q^{\perp} t^{ab} \frac{2}{3} Q^{\perp} t_{ab} \right\} \right\}$$

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`EvenOdd\$38622 will now be printed.

$$\left\{ \left\{ \epsilon^{\parallel bcd} \frac{2}{3} h^{\parallel} t^{ab} \frac{2}{3} Q^{\parallel} t_a^{cd} \right\}, \left\{ \epsilon^{\parallel bcd} \frac{2}{3} Q^{\parallel} t^{abc} \frac{2}{3} Q^{\parallel} t_a^d \right\}, \left\{ \epsilon^{\parallel bcd} \frac{2}{3} Q^{\parallel} t^{abc} \frac{2}{3} Q^{\perp} t_a^d \right\} \right\}$$

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`OddEven\$38622 will now be printed.

$$\left\{ \left\{ \epsilon^{\parallel bcd} \frac{2}{3} h^{\parallel} t^{ab} \frac{2}{3} Q^{\parallel} t_a^{cd}, \epsilon^{\parallel bcd} \frac{2}{3} Q^{\parallel} t^{abc} \frac{2}{3} Q^{\parallel} t_a^d, \epsilon^{\parallel bcd} \frac{2}{3} Q^{\parallel} t^{abc} \frac{2}{3} Q^{\perp} t_a^d \right\} \right\}$$

** xAct`PSALter`Private`Diagnostic: the value of the
variable xAct`PSALter`Private`OddOdd\$38622 will now be printed.

$$\left\{ \left\{ \frac{2}{3} Q^{\parallel} t^{abc} \frac{2}{3} Q^{\parallel} t_{abc} \right\} \right\}$$

** xAct`PSALter`Private`Diagnostic: the value of the variable
 xAct`PSALter`Private`InvariantMatrixValue\$38622[xAct`PSALter`Private`Spin]
 will now be printed.

$$\begin{pmatrix} \frac{2}{3} h^{ab} \frac{2}{3} h^{\dagger}_{ab} & \frac{2}{3} h^{ab} \frac{2}{3} Q^{\dagger}_{ab} & \frac{2}{3} h^{ab} \frac{2}{3} Q^{\perp}_{ab} & \epsilon^{abcd} \frac{2}{3} h^{\dagger} \frac{2}{3} Q^{\dagger}_{ab} & \epsilon^{abcd} \frac{2}{3} h^{\dagger} \frac{2}{3} Q^{\perp}_{ab} \\ \frac{2}{3} h^{ab} \frac{2}{3} Q^{\dagger}_{ab} & \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\dagger}_{ab} & \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\perp}_{ab} & \epsilon^{abcd} \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\dagger}_{ab} & \epsilon^{abcd} \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\perp}_{ab} \\ \frac{2}{3} h^{ab} \frac{2}{3} Q^{\perp}_{ab} & \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\perp}_{ab} & \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\perp}_{ab} & \epsilon^{abcd} \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\perp}_{ab} & \epsilon^{abcd} \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\perp}_{ab} \\ \epsilon^{abcd} \frac{2}{3} h^{\dagger} \frac{2}{3} Q^{\dagger}_{ab} & \epsilon^{abcd} \frac{2}{3} h^{\dagger} \frac{2}{3} Q^{\perp}_{ab} & \epsilon^{abcd} \frac{2}{3} h^{\dagger} \frac{2}{3} Q^{\perp}_{ab} & \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\dagger}_{ab} & \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\perp}_{ab} \\ \epsilon^{abcd} \frac{2}{3} h^{\dagger} \frac{2}{3} Q^{\perp}_{ab} & \epsilon^{abcd} \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\dagger}_{ab} & \epsilon^{abcd} \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\perp}_{ab} & \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\perp}_{ab} & \frac{2}{3} Q^{ab} \frac{2}{3} Q^{\perp}_{ab} \end{pmatrix}$$

** xAct`PSALter`Private`Diagnostic: the value of the variable
 xAct`PSALter`Private`MaskMatrixValue\$38622[xAct`PSALter`Private`Spin]
 will now be printed.

$$\begin{pmatrix} 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix}$$

** xAct`PSALter`Private`Diagnostic: the value of the variable
 xAct`PSALter`Private`AntiMaskMatrixValue\$38622[xAct`PSALter`Private`Spin]
 will now be printed.

<|Even → {{1, 1, 1, 0}, {1, 1, 1, 0}, {1, 1, 1, 0}, {0, 0, 0, 0}},
 Odd → {{0, 0, 0, 0}, {0, 0, 0, 0}, {0, 0, 0, 0}, {0, 0, 0, 1}}|>

** xAct`PSALter`Private`Diagnostic: the value of the
 variable xAct`PSALter`Private`EvenEven\$38622 will now be printed.

{}

** xAct`PSALter`Private`Diagnostic: the value of the
 variable xAct`PSALter`Private`EvenOdd\$38622 will now be printed.

{}

** xAct`PSALter`Private`Diagnostic: the value of the
 variable xAct`PSALter`Private`OddEven\$38622 will now be printed.

{}

** xAct`PSALter`Private`Diagnostic: the value of the
 variable xAct`PSALter`Private`OddOdd\$38622 will now be printed.

$$\left\{ \left\{ \frac{3}{4} Q^{abc} \frac{3}{4} Q^{\dagger}_{abc} \right\} \right\}$$

** xAct`PSALter`Private`Diagnostic: the value of the variable
 xAct`PSALter`Private`InvariantMatrixValue\$38622[xAct`PSALter`Private`Spin]
 will now be printed.

$$\left(\left(\frac{3}{4} Q^{abc} \frac{3}{4} Q^{\dagger}_{abc} \right) \right)$$

** xAct`PSALter`Private`Diagnostic: the value of the variable
 xAct`PSALter`Private`MaskMatrixValue\$38622[xAct`PSALter`Private`Spin]
 will now be printed.

(1)

** xAct`PSALter`Private`Diagnostic: the value of the variable
 xAct`PSALter`Private`AntiMaskMatrixValue\$38622[xAct`PSALter`Private`Spin]
 will now be printed.

<|Even → {0}, Odd → {1}|>

** xAct`PSALter`Private`Diagnostic:
 the value of the variable hi there will now be printed.

hi there

** xAct`PSALter`Private`Diagnostic: the value of
 the variable xAct`PSALter`Private`Expr\$40846 will now be printed.

$$\begin{aligned} & \frac{0}{1} h^{\parallel} \frac{0}{1} h^{\parallel} \dagger + \frac{2}{1} h^{\parallel} \frac{0}{1} h^{\parallel} \dagger + \frac{2}{1} h^{\parallel} \dagger_{ab} + \frac{0}{1} h^{\perp} \frac{0}{1} h^{\perp} \dagger + \frac{1}{1} h^{\perp} \frac{0}{1} h^{\perp} \dagger + \frac{0}{1} Q^{\parallel} \frac{0}{1} Q^{\parallel} \dagger + \frac{1}{1} Q^{\perp} \frac{0}{1} Q^{\perp} \dagger + \frac{1}{1} Q^{\perp} \dagger_{ab} + \\ & \frac{2}{1} Q^{\parallel} \frac{0}{1} Q^{\parallel} \dagger + \frac{2}{1} Q^{\parallel} \dagger_{abc} + \frac{2}{1} Q^{\parallel} \frac{0}{1} Q^{\parallel} \dagger + \frac{2}{1} Q^{\parallel} \dagger_{ab} + \frac{3}{1} Q^{\parallel} \frac{0}{1} Q^{\parallel} \dagger + \frac{3}{1} Q^{\parallel} \dagger_{abc} + \frac{1}{1} Q^{\parallel} h^a \frac{1}{1} Q^{\parallel} h^a \dagger + \frac{1}{1} Q^{\parallel} h^a \frac{1}{1} Q^{\parallel} h^a \dagger + \\ & \frac{2}{1} Q^{\perp} \frac{0}{1} Q^{\perp} \dagger + \frac{2}{1} Q^{\perp} \dagger_{ab} + \frac{0}{1} Q^{\perp} h^a \frac{0}{1} Q^{\perp} h^a \dagger + \frac{1}{1} Q^{\perp} h^a \frac{1}{1} Q^{\perp} h^a \dagger + \frac{0}{1} Q^{\perp} h^a \frac{0}{1} Q^{\perp} h^a \dagger + \frac{1}{1} Q^{\perp} h^a \frac{1}{1} Q^{\perp} h^a \dagger + \frac{1}{1} Q^{\perp} h^a \frac{1}{1} Q^{\perp} h^a \dagger \end{aligned}$$

** xAct`PSALter`Private`Diagnostic: the value of the
 variable xAct`PSALter`Private`OriginalTerms\$40846 will now be printed.

$$\left\{ h^{\perp} h^{\perp} \dagger_{ab}, Q^{\perp} Q^{\perp} \dagger_{abc} \right\}$$

** xAct`PSALter`Private`Diagnostic: the value of
 the variable xAct`PSALter`Private`Expr\$40846 will now be printed.

$$\begin{aligned} & \frac{0}{1} h^{\parallel} \frac{0}{1} h^{\parallel} \dagger + \frac{2}{1} h^{\parallel} \frac{0}{1} h^{\parallel} \dagger + \frac{2}{1} h^{\parallel} \dagger_{ab} + \frac{0}{1} h^{\perp} \frac{0}{1} h^{\perp} \dagger + \frac{1}{1} h^{\perp} \frac{0}{1} h^{\perp} \dagger + \frac{0}{1} Q^{\parallel} \frac{0}{1} Q^{\parallel} \dagger + \frac{1}{1} Q^{\perp} \frac{0}{1} Q^{\perp} \dagger + \frac{1}{1} Q^{\perp} \dagger_{ab} + \\ & \frac{2}{1} Q^{\parallel} \frac{0}{1} Q^{\parallel} \dagger + \frac{2}{1} Q^{\parallel} \dagger_{abc} + \frac{2}{1} Q^{\parallel} \frac{0}{1} Q^{\parallel} \dagger + \frac{2}{1} Q^{\parallel} \dagger_{ab} + \frac{3}{1} Q^{\parallel} \frac{0}{1} Q^{\parallel} \dagger + \frac{3}{1} Q^{\parallel} \dagger_{abc} + \frac{1}{1} Q^{\parallel} h^a \frac{1}{1} Q^{\parallel} h^a \dagger + \frac{1}{1} Q^{\parallel} h^a \frac{1}{1} Q^{\parallel} h^a \dagger + \\ & \frac{2}{1} Q^{\perp} \frac{0}{1} Q^{\perp} \dagger + \frac{2}{1} Q^{\perp} \dagger_{ab} + \frac{0}{1} Q^{\perp} h^a \frac{0}{1} Q^{\perp} h^a \dagger + \frac{1}{1} Q^{\perp} h^a \frac{1}{1} Q^{\perp} h^a \dagger + \frac{0}{1} Q^{\perp} h^a \frac{0}{1} Q^{\perp} h^a \dagger + \frac{1}{1} Q^{\perp} h^a \frac{1}{1} Q^{\perp} h^a \dagger + \frac{1}{1} Q^{\perp} h^a \frac{1}{1} Q^{\perp} h^a \dagger - Q^{\perp} Q^{\perp} \dagger_{abc} \end{aligned}$$

** xAct`PSALter`Private`Diagnostic: the value of
 the variable xAct`PSALter`Private`Expr\$40846 will now be printed.


```

LinearMetricPara0pRescalingSymbol2  $\frac{0}{1} h^a h^b$   $\dagger$  +
LinearMetricPara2pRescalingSymbol2  $\frac{2}{1} h^a h^b$   $\dagger_{ab}$  +
LinearMetricPerp0pRescalingSymbol2  $\frac{0}{1} h^a h^b$   $\dagger$  +
LinearMetricPerp1mRescalingSymbol2  $\frac{1}{1} h^a h^b$   $\dagger_a - h^{ab} h \dagger_{ab}$  +
QPara0pRescalingSymbol2  $\frac{0}{1} Q^a Q^b$   $\dagger$  + QPara1pRescalingSymbol2  $\frac{1}{1} Q^a Q^b$   $\dagger_{ab}$  +
QPara2mRescalingSymbol2  $\frac{2}{1} Q^a Q^b Q^c$   $\dagger_{abc}$  + QPara2pRescalingSymbol2  $\frac{2}{1} Q^a Q^b$   $\dagger_{ab}$  +
QPara3mRescalingSymbol2  $\frac{3}{1} Q^a Q^b Q^c$   $\dagger_{abc}$  + QParaH1mRescalingSymbol2  $\frac{1}{1} Q^{ah} Q^b$   $\dagger_a +$ 
QParaT1mRescalingSymbol2  $\frac{1}{1} Q^{at} Q^b$   $\dagger_a +$  QPerp2pRescalingSymbol2  $\frac{2}{1} Q^a Q^b$   $\dagger_{ab}$  +
QPerpH0pRescalingSymbol2  $\frac{0}{1} Q^{ah} Q^b$   $\dagger +$  QPerpH1mRescalingSymbol2  $\frac{1}{1} Q^{ah} Q^b$   $\dagger_a +$ 
QPerpT0pRescalingSymbol2  $\frac{0}{1} Q^{at} Q^b$   $\dagger +$  QPerpT1mRescalingSymbol2  $\frac{1}{1} Q^{at} Q^b - Q^{abc} Q \dagger_{abc}$ 

** xAct`PSALter`Private`Diagnostic: the value of
the variable xAct`PSALter`Private`Expr$40846 will now be printed.

```

$$\begin{aligned}
& (-1 + \text{LinearMetricPara2pRescalingSymbol}^2) h^a h \dagger_{ab} + \\
& \left(\text{LinearMetricPara0pRescalingSymbol}^2 - \frac{\text{LinearMetricPara2pRescalingSymbol}^2}{3} \right) h^a h \dagger^b_b + \\
& \frac{1}{3} (-3 + 2 \text{QPara2mRescalingSymbol}^2 + \text{QPara3mRescalingSymbol}^2) Q^{abc} Q \dagger_{abc} - \\
& \frac{2}{3} (\text{QPara2mRescalingSymbol}^2 - \text{QPara3mRescalingSymbol}^2) Q^{abc} Q \dagger_{acb} + \\
& \left(\frac{\text{QPara2mRescalingSymbol}^2}{3} - \frac{2 \text{QPara3mRescalingSymbol}^2}{15} - \right. \\
& \quad \left. \text{QParaH1mRescalingSymbol}^2 + 2 \text{QParaT1mRescalingSymbol}^2 \right) Q^a{}_a Q \dagger^c_b + \\
& \left(-\frac{\text{QPara2mRescalingSymbol}^2}{3} - \frac{4 \text{QPara3mRescalingSymbol}^2}{15} + \right. \\
& \quad \left. \text{QParaH1mRescalingSymbol}^2 + 4 \text{QParaT1mRescalingSymbol}^2 \right) Q^{ab}{}_a Q \dagger^c_b + \\
& \left(-\frac{\text{QPara2mRescalingSymbol}^2}{3} - \frac{\text{QPara3mRescalingSymbol}^2}{15} + \text{QParaH1mRescalingSymbol}^2 + \right. \\
& \quad \left. \text{QParaT1mRescalingSymbol}^2 \right) Q^a{}_a Q \dagger^c_{cb} + \\
& \left(\frac{\text{QPara2mRescalingSymbol}^2}{3} - \frac{2 \text{QPara3mRescalingSymbol}^2}{15} - \text{QParaH1mRescalingSymbol}^2 + \right. \\
& \quad \left. 2 \text{QParaT1mRescalingSymbol}^2 \right) Q^{ab}{}_a Q \dagger^c_{cb} +
\end{aligned}$$

$$\begin{aligned}
& \frac{1}{3} \left(-3 \text{LinearMetricPara0pRescalingSymbol}^2 + \text{LinearMetricPara2pRescalingSymbol}^2 \right) h^c_c h^a_{t_{ab}} n^a \\
& n^b + \left(-2 \text{LinearMetricPara2pRescalingSymbol}^2 + \text{LinearMetricPerp1mRescalingSymbol}^2 \right) h^c_a h^a_{t_{bc}} \\
& n^a n^b + \frac{1}{3} \left(-3 \text{LinearMetricPara0pRescalingSymbol}^2 + \text{LinearMetricPara2pRescalingSymbol}^2 \right) \\
& h^c_{ab} h^a_{t^c_c} n^a n^b + \frac{1}{15} \left(5 \text{QPara2mRescalingSymbol}^2 + \text{QPara3mRescalingSymbol}^2 - \right. \\
& \left. 15 (\text{QParaH1mRescalingSymbol}^2 + \text{QParaT1mRescalingSymbol}^2) \right) Q^c_c{}^d Q^a_{t_{abd}} n^a n^b + \\
& \left(-\frac{\text{QPara2mRescalingSymbol}^2}{3} + \frac{2 \text{QPara3mRescalingSymbol}^2}{15} + \text{QParaH1mRescalingSymbol}^2 - \right. \\
& \left. 2 \text{QParaT1mRescalingSymbol}^2 \right) Q^c_c{}^d Q^a_{t_{abd}} n^a n^b + \\
& \left(-\frac{\text{QPara2mRescalingSymbol}^2}{3} + \frac{2 \text{QPara3mRescalingSymbol}^2}{15} + \text{QParaH1mRescalingSymbol}^2 - \right. \\
& \left. 2 \text{QParaT1mRescalingSymbol}^2 \right) Q^c_c{}^d Q^a_{t_{adb}} n^a n^b + \\
& \left(\frac{\text{QPara2mRescalingSymbol}^2}{3} + \frac{4 \text{QPara3mRescalingSymbol}^2}{15} - \text{QParaH1mRescalingSymbol}^2 - \right. \\
& \left. 4 \text{QParaT1mRescalingSymbol}^2 \right) Q^c_c{}^d Q^a_{t_{adb}} n^a n^b + \\
& \frac{1}{6} \left(12 \text{QPara1pRescalingSymbol}^2 - 8 \text{QPara2mRescalingSymbol}^2 + 12 \text{QPara2pRescalingSymbol}^2 - \right. \\
& \left. 4 \text{QPara3mRescalingSymbol}^2 + 3 \text{QPerp2pRescalingSymbol}^2 \right) Q^c_a{}^d Q^a_{t_{bcd}} n^a n^b + \\
& \frac{1}{3} \left(2 \text{QPara2mRescalingSymbol}^2 + 6 \text{QPara2pRescalingSymbol}^2 - 2 \text{QPara3mRescalingSymbol}^2 - \right. \\
& \left. 3 \text{QPerp2pRescalingSymbol}^2 \right) Q^c_a{}^d Q^a_{t_{bcd}} n^a n^b + \\
& \frac{1}{6} \left(-12 \text{QPara1pRescalingSymbol}^2 + 4 \text{QPara2mRescalingSymbol}^2 + 12 \text{QPara2pRescalingSymbol}^2 - \right. \\
& \left. 4 \text{QPara3mRescalingSymbol}^2 + 3 \text{QPerp2pRescalingSymbol}^2 \right) Q^c_a{}^d Q^a_{t_{bdc}} n^a n^b + \\
& \left(4 \text{QPara0pRescalingSymbol}^2 + \frac{\text{QPara2mRescalingSymbol}^2}{3} - \frac{4 \text{QPara2pRescalingSymbol}^2}{3} + \right. \\
& \frac{4 \text{QPara3mRescalingSymbol}^2}{15} - \text{QParaH1mRescalingSymbol}^2 - 4 \text{QParaT1mRescalingSymbol}^2 - \\
& \left. \frac{\text{QPerp2pRescalingSymbol}^2}{3} + \text{QPerpH0pRescalingSymbol}^2 \right) Q^c_a{}^c Q^a_{t^d_b{}^d} n^a n^b + \\
& \left(2 \text{QPara0pRescalingSymbol}^2 - \frac{\text{QPara2mRescalingSymbol}^2}{3} - \frac{2 \text{QPara2pRescalingSymbol}^2}{3} + \right.
\end{aligned}$$

$$\begin{aligned}
& \left(\frac{2 \text{QPara3mRescalingSymbol}^2}{15} + \text{QParaH1mRescalingSymbol}^2 - 2 \text{QParaT1mRescalingSymbol}^2 + \right. \\
& \left. \frac{\text{QPerp2pRescalingSymbol}^2}{3} - \text{QPerpH0pRescalingSymbol}^2 \right) Q_{c \ a}^c \ Q_{b \ d}^d \ n^a \ n^b + \\
& \frac{1}{3} \left(2 \text{QPara2mRescalingSymbol}^2 + 6 \text{QPara2pRescalingSymbol}^2 - 2 \text{QPara3mRescalingSymbol}^2 - \right. \\
& \left. 3 \text{QPerp2pRescalingSymbol}^2 \right) Q_{a \ d}^{c \ d} \ Q_{c \ d \ b}^{\dagger} \ n^a \ n^b + \\
& \left(-\frac{2 \text{QPara2mRescalingSymbol}^2}{3} + \text{QPara2pRescalingSymbol}^2 - \frac{\text{QPara3mRescalingSymbol}^2}{3} + \right. \\
& \left. \text{QPerp2pRescalingSymbol}^2 \right) Q_{a \ d}^{c \ d} \ Q_{c \ d \ b}^{\dagger} \ n^a \ n^b + \\
& \left(-\frac{\text{QPara2mRescalingSymbol}^2}{3} + \frac{2 \text{QPara3mRescalingSymbol}^2}{15} + \text{QParaH1mRescalingSymbol}^2 - \right. \\
& \left. 2 \text{QParaT1mRescalingSymbol}^2 \right) Q_{a \ b}^c \ Q_{c \ d}^d \ n^a \ n^b + \\
& \left(\frac{\text{QPara2mRescalingSymbol}^2}{3} + \frac{4 \text{QPara3mRescalingSymbol}^2}{15} - \text{QParaH1mRescalingSymbol}^2 - \right. \\
& \left. 4 \text{QParaT1mRescalingSymbol}^2 \right) Q_{a \ b}^c \ Q_{c \ d}^d \ n^a \ n^b + \\
& \left(2 \text{QPara0pRescalingSymbol}^2 - \frac{\text{QPara2mRescalingSymbol}^2}{3} - \frac{2 \text{QPara2pRescalingSymbol}^2}{3} + \right. \\
& \left. \frac{2 \text{QPara3mRescalingSymbol}^2}{15} + \text{QParaH1mRescalingSymbol}^2 - 2 \text{QParaT1mRescalingSymbol}^2 + \right. \\
& \left. \frac{\text{QPerp2pRescalingSymbol}^2}{3} - \text{QPerpH0pRescalingSymbol}^2 \right) Q_{a \ c}^c \ Q_{d \ b}^d \ n^a \ n^b + \\
& \left(\text{QPara0pRescalingSymbol}^2 + \frac{1}{15} \left(5 \text{QPara2mRescalingSymbol}^2 - 5 \text{QPara2pRescalingSymbol}^2 + \right. \right. \\
& \left. \left. \text{QPara3mRescalingSymbol}^2 - 15 \text{QParaH1mRescalingSymbol}^2 - 15 \text{QParaT1mRescalingSymbol}^2 - \right. \right. \\
& \left. \left. 5 \text{QPerp2pRescalingSymbol}^2 + 15 \text{QPerpH0pRescalingSymbol}^2 \right) \right) Q_{c \ a}^c \ Q_{d \ b}^d \ n^a \ n^b + \\
& \frac{1}{15} \left(5 \text{QPara2mRescalingSymbol}^2 + \text{QPara3mRescalingSymbol}^2 - \right. \\
& \left. 15 \left(\text{QParaH1mRescalingSymbol}^2 + \text{QParaT1mRescalingSymbol}^2 \right) \right) Q_{a \ b}^c \ Q_{d \ c}^d \ n^a \ n^b + \\
& \left(-\frac{\text{QPara2mRescalingSymbol}^2}{3} + \frac{2 \text{QPara3mRescalingSymbol}^2}{15} + \text{QParaH1mRescalingSymbol}^2 - \right. \\
& \left. 2 \text{QParaT1mRescalingSymbol}^2 \right) Q_{a \ b}^c \ Q_{d \ c}^d \ n^a \ n^b +
\end{aligned}$$

$$\begin{aligned}
& \left(\text{LinearMetricPara0pRescalingSymbol}^2 + \frac{2 \text{LinearMetricPara2pRescalingSymbol}^2}{3} + \right. \\
& \quad \left. \text{LinearMetricPerp0pRescalingSymbol}^2 - \text{LinearMetricPerp1mRescalingSymbol}^2 \right) \\
& h_{ab} h^{\dagger}_{cd} n^a n^b n^c n^d + \left(-6 \text{QPara0pRescalingSymbol}^2 + 2 \text{QPara2pRescalingSymbol}^2 - \right. \\
& \quad \left. \frac{2 \text{QPara3mRescalingSymbol}^2}{5} + 6 \text{QParaT1mRescalingSymbol}^2 \right) Q^e_{a}{}^e_{e} Q^{\dagger}_{bcd} n^a n^b n^c n^d + \\
& \left(-3 \text{QPara0pRescalingSymbol}^2 + \text{QPara2pRescalingSymbol}^2 - \frac{\text{QPara3mRescalingSymbol}^2}{5} + \right. \\
& \quad \left. 3 \text{QParaT1mRescalingSymbol}^2 \right) Q^e_{ea} Q^{\dagger}_{bcd} n^a n^b n^c n^d + \\
& \left(6 \text{QPara1pRescalingSymbol}^2 + \frac{\text{QPara2mRescalingSymbol}^2}{3} - 2 \text{QPara2pRescalingSymbol}^2 + \right. \\
& \quad \frac{4 \text{QPara3mRescalingSymbol}^2}{15} + \text{QParaH1mRescalingSymbol}^2 + \text{QParaT1mRescalingSymbol}^2 - \\
& \quad \left. \frac{\text{QPerp2pRescalingSymbol}^2}{2} + \text{QPerpH1mRescalingSymbol}^2 + \text{QPerpT1mRescalingSymbol}^2 \right) \\
& Q^e_{ab} Q^{\dagger}_{cde} n^a n^b n^c n^d + \left(-6 \text{QPara1pRescalingSymbol}^2 - \frac{\text{QPara2mRescalingSymbol}^2}{3} - \right. \\
& \quad 4 \text{QPara2pRescalingSymbol}^2 + \frac{8 \text{QPara3mRescalingSymbol}^2}{15} - \\
& \quad \text{QParaH1mRescalingSymbol}^2 + 2 \text{QParaT1mRescalingSymbol}^2 + \frac{\text{QPerp2pRescalingSymbol}^2}{2} - \\
& \quad \left. \text{QPerpH1mRescalingSymbol}^2 + 2 \text{QPerpT1mRescalingSymbol}^2 \right) Q^e_{a}{}^e_{b} Q^{\dagger}_{cde} n^a n^b n^c n^d + \\
& \left(-6 \text{QPara1pRescalingSymbol}^2 - \frac{\text{QPara2mRescalingSymbol}^2}{3} - 4 \text{QPara2pRescalingSymbol}^2 + \right. \\
& \quad \frac{8 \text{QPara3mRescalingSymbol}^2}{15} - \text{QParaH1mRescalingSymbol}^2 + 2 \text{QParaT1mRescalingSymbol}^2 + \\
& \quad \left. \frac{\text{QPerp2pRescalingSymbol}^2}{2} - \text{QPerpH1mRescalingSymbol}^2 + 2 \text{QPerpT1mRescalingSymbol}^2 \right) \\
& Q^e_{ab} Q^{\dagger}_{ced} n^a n^b n^c n^d + \left(6 \text{QPara1pRescalingSymbol}^2 + \frac{\text{QPara2mRescalingSymbol}^2}{3} - \right. \\
& \quad \left. 8 \text{QPara2pRescalingSymbol}^2 + \frac{16 \text{QPara3mRescalingSymbol}^2}{15} + \right.
\end{aligned}$$

$$\begin{aligned}
& Q\text{ParaH1mRescalingSymbol}^2 + 4 Q\text{ParaT1mRescalingSymbol}^2 - \frac{Q\text{Perp2pRescalingSymbol}^2}{2} + \\
& Q\text{PerpH1mRescalingSymbol}^2 + 4 Q\text{PerpT1mRescalingSymbol}^2 \Bigg) Q_{a^e b} Q_{\dagger_{ced}} n^a n^b n^c n^d + \\
& \left(-6 Q\text{Para0pRescalingSymbol}^2 + 2 Q\text{Para2pRescalingSymbol}^2 - \frac{2 Q\text{Para3mRescalingSymbol}^2}{5} + \right. \\
& \left. 6 Q\text{ParaT1mRescalingSymbol}^2 \right) Q_{abc} Q_{\dagger_{de}} n^a n^b n^c n^d + \\
& \left(-3 Q\text{Para0pRescalingSymbol}^2 + Q\text{Para2pRescalingSymbol}^2 - \frac{Q\text{Para3mRescalingSymbol}^2}{5} + \right. \\
& \left. 3 Q\text{ParaT1mRescalingSymbol}^2 \right) Q_{abc} Q_{\dagger_{ed}} n^a n^b n^c n^d + \\
& \left(9 Q\text{Para0pRescalingSymbol}^2 + 6 Q\text{Para2pRescalingSymbol}^2 - \frac{2 Q\text{Para3mRescalingSymbol}^2}{5} - \right. \\
& 9 Q\text{ParaT1mRescalingSymbol}^2 + Q\text{PerpT0pRescalingSymbol}^2 - \\
& \left. 9 Q\text{PerpT1mRescalingSymbol}^2 \right) Q_{abc} Q_{\dagger_{def}} n^a n^b n^c n^d n^e n^f
\end{aligned}$$

** xAct`PSALter`Private`Diagnostic: the value of the variable

xAct`PSALter`Private`SystemOfEquations\$40846 will now be printed.

$$\begin{aligned}
& \text{LinearMetricPara0pRescalingSymbol}^2 - \frac{\text{LinearMetricPara2pRescalingSymbol}^2}{3} == 0 \&\& \\
& -1 + \text{LinearMetricPara2pRescalingSymbol}^2 == 0 \&\& \\
& \frac{1}{3} \left(-3 \text{LinearMetricPara0pRescalingSymbol}^2 + \text{LinearMetricPara2pRescalingSymbol}^2 \right) == 0 \&\& \\
& \text{LinearMetricPara0pRescalingSymbol}^2 + \frac{2 \text{LinearMetricPara2pRescalingSymbol}^2}{3} + \\
& \text{LinearMetricPerp0pRescalingSymbol}^2 - \text{LinearMetricPerp1mRescalingSymbol}^2 == 0 \&\& \\
& -2 \text{LinearMetricPara2pRescalingSymbol}^2 + \text{LinearMetricPerp1mRescalingSymbol}^2 == 0 \&\& \\
& -\frac{2}{3} (Q\text{Para2mRescalingSymbol}^2 - Q\text{Para3mRescalingSymbol}^2) == 0 \&\& \\
& \frac{1}{3} (-3 + 2 Q\text{Para2mRescalingSymbol}^2 + Q\text{Para3mRescalingSymbol}^2) == 0 \&\& \\
& \frac{Q\text{Para2mRescalingSymbol}^2}{3} + \frac{4 Q\text{Para3mRescalingSymbol}^2}{15} - \\
& Q\text{ParaH1mRescalingSymbol}^2 - 4 Q\text{ParaT1mRescalingSymbol}^2 == 0 \&\& \\
& -\frac{Q\text{Para2mRescalingSymbol}^2}{3} + \frac{2 Q\text{Para3mRescalingSymbol}^2}{15} + Q\text{ParaH1mRescalingSymbol}^2 - \\
& 2 Q\text{ParaT1mRescalingSymbol}^2 == 0 \&\& - \frac{Q\text{Para2mRescalingSymbol}^2}{3} -
\end{aligned}$$

$$\begin{aligned}
& \frac{Q\text{Para3mRescalingSymbol}^2}{15} + Q\text{ParaH1mRescalingSymbol}^2 + Q\text{ParaT1mRescalingSymbol}^2 == 0 \&\& \\
& \frac{Q\text{Para2mRescalingSymbol}^2}{3} - \frac{2 Q\text{Para3mRescalingSymbol}^2}{15} - Q\text{ParaH1mRescalingSymbol}^2 + \\
& 2 Q\text{ParaT1mRescalingSymbol}^2 == 0 \&\& - 3 Q\text{Para0pRescalingSymbol}^2 + \\
& Q\text{Para2pRescalingSymbol}^2 - \frac{Q\text{Para3mRescalingSymbol}^2}{5} + 3 Q\text{ParaT1mRescalingSymbol}^2 == 0 \&\& \\
& - \frac{Q\text{Para2mRescalingSymbol}^2}{3} - \frac{4 Q\text{Para3mRescalingSymbol}^2}{15} + Q\text{ParaH1mRescalingSymbol}^2 + \\
& 4 Q\text{ParaT1mRescalingSymbol}^2 == 0 \&\& - 6 Q\text{Para0pRescalingSymbol}^2 + \\
& 2 Q\text{Para2pRescalingSymbol}^2 - \frac{2 Q\text{Para3mRescalingSymbol}^2}{5} + 6 Q\text{ParaT1mRescalingSymbol}^2 == 0 \&\& \\
& \frac{1}{15} \left(5 Q\text{Para2mRescalingSymbol}^2 + Q\text{Para3mRescalingSymbol}^2 - \right. \\
& \quad \left. 15 (Q\text{ParaH1mRescalingSymbol}^2 + Q\text{ParaT1mRescalingSymbol}^2) \right) == 0 \&\& \\
& \frac{1}{3} \left(2 Q\text{Para2mRescalingSymbol}^2 + 6 Q\text{Para2pRescalingSymbol}^2 - 2 Q\text{Para3mRescalingSymbol}^2 - \right. \\
& \quad \left. 3 Q\text{Perp2pRescalingSymbol}^2 \right) == 0 \&\& - \frac{2 Q\text{Para2mRescalingSymbol}^2}{3} + \\
& Q\text{Para2pRescalingSymbol}^2 - \frac{Q\text{Para3mRescalingSymbol}^2}{3} + Q\text{Perp2pRescalingSymbol}^2 == 0 \&\& \\
& \frac{1}{6} \left(12 Q\text{Para1pRescalingSymbol}^2 - 8 Q\text{Para2mRescalingSymbol}^2 + 12 Q\text{Para2pRescalingSymbol}^2 - \right. \\
& \quad \left. 4 Q\text{Para3mRescalingSymbol}^2 + 3 Q\text{Perp2pRescalingSymbol}^2 \right) == 0 \&\& \\
& \frac{1}{6} \left(-12 Q\text{Para1pRescalingSymbol}^2 + 4 Q\text{Para2mRescalingSymbol}^2 + 12 Q\text{Para2pRescalingSymbol}^2 - \right. \\
& \quad \left. 4 Q\text{Para3mRescalingSymbol}^2 + 3 Q\text{Perp2pRescalingSymbol}^2 \right) == 0 \&\& \\
& 2 Q\text{Para0pRescalingSymbol}^2 - \frac{Q\text{Para2mRescalingSymbol}^2}{3} - \frac{2 Q\text{Para2pRescalingSymbol}^2}{3} + \\
& \frac{2 Q\text{Para3mRescalingSymbol}^2}{15} + Q\text{ParaH1mRescalingSymbol}^2 - 2 Q\text{ParaT1mRescalingSymbol}^2 + \\
& \frac{Q\text{Perp2pRescalingSymbol}^2}{3} - Q\text{PerpH0pRescalingSymbol}^2 == 0 \&\& \\
& 4 Q\text{Para0pRescalingSymbol}^2 + \frac{Q\text{Para2mRescalingSymbol}^2}{3} - \frac{4 Q\text{Para2pRescalingSymbol}^2}{3} + \\
& \frac{4 Q\text{Para3mRescalingSymbol}^2}{15} - Q\text{ParaH1mRescalingSymbol}^2 - 4 Q\text{ParaT1mRescalingSymbol}^2 - \\
& \frac{Q\text{Perp2pRescalingSymbol}^2}{3} + Q\text{PerpH0pRescalingSymbol}^2 == 0 \&\& \\
& Q\text{Para0pRescalingSymbol}^2 + \frac{1}{15} \left(5 Q\text{Para2mRescalingSymbol}^2 - 5 Q\text{Para2pRescalingSymbol}^2 + \right.
\end{aligned}$$

```

QPara3mRescalingSymbol2 - 15 QParaH1mRescalingSymbol2 - 15 QParaT1mRescalingSymbol2 -
5 QPerp2pRescalingSymbol2 + 15 QPerpH0pRescalingSymbol2) == 0 &&

9 QPara0pRescalingSymbol2 + 6 QPara2pRescalingSymbol2 -  $\frac{2 \text{ QPara3mRescalingSymbol}^2}{5}$  -
9 QParaT1mRescalingSymbol2 + QPerpT0pRescalingSymbol2 - 9 QPerpT1mRescalingSymbol2 == 0 &&

6 QPara1pRescalingSymbol2 +  $\frac{\text{QPara2mRescalingSymbol}^2}{3}$  - 2 QPara2pRescalingSymbol2 +
 $\frac{4 \text{ QPara3mRescalingSymbol}^2}{15}$  + QParaH1mRescalingSymbol2 + QParaT1mRescalingSymbol2 -
 $\frac{\text{QPerp2pRescalingSymbol}^2}{2}$  + QPerpH1mRescalingSymbol2 + QPerpT1mRescalingSymbol2 == 0 &&

-6 QPara1pRescalingSymbol2 -  $\frac{\text{QPara2mRescalingSymbol}^2}{3}$  - 4 QPara2pRescalingSymbol2 +
 $\frac{8 \text{ QPara3mRescalingSymbol}^2}{15}$  - QParaH1mRescalingSymbol2 + 2 QParaT1mRescalingSymbol2 +
 $\frac{\text{QPerp2pRescalingSymbol}^2}{2}$  - QPerpH1mRescalingSymbol2 + 2 QPerpT1mRescalingSymbol2 == 0 &&

6 QPara1pRescalingSymbol2 +  $\frac{\text{QPara2mRescalingSymbol}^2}{3}$  - 8 QPara2pRescalingSymbol2 +
 $\frac{16 \text{ QPara3mRescalingSymbol}^2}{15}$  + QParaH1mRescalingSymbol2 + 4 QParaT1mRescalingSymbol2 -
 $\frac{\text{QPerp2pRescalingSymbol}^2}{2}$  + QPerpH1mRescalingSymbol2 + 4 QPerpT1mRescalingSymbol2 == 0

** xAct`PSALter`Private`Diagnostic: the value of the variable
xAct`PSALter`Private`RescalingSolutionsValue will now be printed.

```

```

{LinearMetricPara0pRescalingSymbol → - $\frac{1}{\sqrt{3}}$ , LinearMetricPara2pRescalingSymbol → -1,
 LinearMetricPerp0pRescalingSymbol → -1, LinearMetricPerp1mRescalingSymbol → - $\sqrt{2}$ ,
 QPara0pRescalingSymbol → - $\frac{1}{3}$ , QPara1pRescalingSymbol → - $\frac{1}{\sqrt{2}}$ ,
 QPara2mRescalingSymbol → -1, QPara2pRescalingSymbol → - $\frac{1}{\sqrt{3}}$ ,
 QPara3mRescalingSymbol → -1, QParaH1mRescalingSymbol → - $\frac{1}{\sqrt{3}}$ ,
 QParaT1mRescalingSymbol → - $\frac{1}{\sqrt{15}}$ , QPerp2pRescalingSymbol → - $\sqrt{\frac{2}{3}}$ ,
 QPerpH0pRescalingSymbol → - $\frac{\sqrt{2}}{3}$ , QPerpH1mRescalingSymbol → - $i\sqrt{\frac{10}{3}}$ ,
 QPerpT0pRescalingSymbol → -1, QPerpT1mRescalingSymbol → - $\frac{1}{\sqrt{3}}$ }

** DefClass: Exporting the binary at MetricAffineGaugeTheory.cla.mx

** BuildPSALter: The context binaries have been rebuilt, the kernel will
now quit. Please reload PSALter.

```