> restart:
> grtw();

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e:/Grtii(6)/Metrics

> qload(diag3);

Default spacetime = diag3

For the diag3 spacetime:

Coordinates

\( x(\text{up}) \)

\( x^a = [x, y, z] \)

Line element

\[ ds^2 = c(x, y, z) \, dx^2 + d(x, y, z) \, dy^2 + e(x, y, z) \, dz^2 \]

> grdef(`WS{ a [ b c ] }:=R{ a b ; c}-R{ a c ; b}-(g{a b}*R{^e e; c}-g{a c}*R{^ f f ; b})/4`);

Created a definition for \( R(\text{dn},\text{dn},\text{cdn}) \)
Created definition for \( R(\text{up},\text{dn}) \)
Created a definition for \( R(\text{up},\text{dn},\text{cdn}) \)
Created definition for \( \text{WS}(\text{dn},\text{dn},\text{dn}) \)

> grdef(`CY{^a ^b}:=2*LevC{^a^c^d}*(R{^b c ;d}-k\delta{^b c}*R{^f f ;d}/4)`);

Created definition for \( \text{CY}(\text{up},\text{dn}) \)
Created definition for \( \text{CY}(\text{up},\text{up}) \)

> grdef(`CY1{^a ^b}:=LevC{^a^c^d}*g{^b ^e}*\text{WS}{ e c d}`);

Created definition for \( \text{CY1}(\text{up},\text{up}) \)

> grdef(`DCY{^a ^b}:=CY{^a ^b}-CY1{^a ^b}`);

Created definition for \( \text{DCY}(\text{up},\text{up}) \)

> grcalc(DCY(up,up));

CPU Time = .681

> grdisplay(_);

For the diag3 spacetime:

\( \text{DCY}(\text{up,up}) \)
\( \text{DCY}(\text{up, up}) \)

\( DCY^a_b = \text{All components are zero} \)