

Uniform Acceleration Internal Metric:

$$\boxed{x^\mu}$$

$$\begin{aligned}x^0 &= t. \\ x^1 &= x. \\ x^2 &= y. \\ x^3 &= z.\end{aligned}$$

$$\boxed{g_{\mu\nu}}$$

$$\begin{aligned}g_{00} &= 1. \\ g_{01} &= -2\sinh(tg)\cosh(tg). \\ g_{02} &= 0. \\ g_{03} &= 0. \\ g_{10} &= -2\sinh(tg)\cosh(tg). \\ g_{11} &= -\cosh(tg)^2 + \sinh(tg)^2. \\ g_{12} &= 0. \\ g_{13} &= 0. \\ g_{20} &= 0. \\ g_{21} &= 0. \\ g_{22} &= -1. \\ g_{23} &= 0. \\ g_{30} &= 0. \\ g_{31} &= 0. \\ g_{32} &= 0. \\ g_{33} &= -1.\end{aligned}$$

$$\boxed{\sqrt{\hspace{0.1cm}} = \sqrt{-\det(g_{\mu\nu})}}$$

$$\sqrt{\hspace{0.1cm}} = \sqrt{4\sinh(tg)^2\cosh(tg)^2 + \cosh(tg)^2 - \sinh(tg)^2}.$$

$$\boxed{g^{\mu\nu}}$$

$$\begin{aligned}g^{00} &= \frac{\cosh(tg)^2 - \sinh(tg)^2}{4\sinh(tg)^2\cosh(tg)^2 + \cosh(tg)^2 - \sinh(tg)^2}. \\ g^{01} &= -2\frac{\sinh(tg)\cosh(tg)}{4\sinh(tg)^2\cosh(tg)^2 + \cosh(tg)^2 - \sinh(tg)^2}. \\ g^{02} &= 0. \\ g^{03} &= 0. \\ g^{10} &= -2\frac{\sinh(tg)\cosh(tg)}{4\sinh(tg)^2\cosh(tg)^2 + \cosh(tg)^2 - \sinh(tg)^2}. \\ g^{11} &= -\frac{1}{4\sinh(tg)^2\cosh(tg)^2 + \cosh(tg)^2 - \sinh(tg)^2}. \\ g^{12} &= 0. \\ g^{13} &= 0. \\ g^{20} &= 0. \\ g^{21} &= 0. \\ g^{22} &= -1. \\ g^{23} &= 0. \\ g^{30} &= 0. \\ g^{31} &= 0. \\ g^{32} &= 0. \\ g^{33} &= -1.\end{aligned}$$

$$\boxed{\Gamma^\sigma_{\hspace{0.1cm}\mu\nu}}$$

$$\begin{aligned}\Gamma^0_{\hspace{0.1cm}00} &= 4\frac{\sinh(tg)\cosh(tg)(g\cosh(tg)^2 + \sinh(tg)^2g)}{4\sinh(tg)^2\cosh(tg)^2 + \cosh(tg)^2 - \sinh(tg)^2}. \\ \Gamma^0_{\hspace{0.1cm}01} &= 0. \\ \Gamma^0_{\hspace{0.1cm}02} &= 0. \\ \Gamma^0_{\hspace{0.1cm}03} &= 0. \\ \Gamma^0_{\hspace{0.1cm}10} &= 0. \\ \Gamma^0_{\hspace{0.1cm}11} &= 0. \\ \Gamma^0_{\hspace{0.1cm}12} &= 0. \\ \Gamma^0_{\hspace{0.1cm}13} &= 0. \\ \Gamma^0_{\hspace{0.1cm}20} &= 0. \\ \Gamma^0_{\hspace{0.1cm}21} &= 0. \\ \Gamma^0_{\hspace{0.1cm}22} &= 0. \\ \Gamma^0_{\hspace{0.1cm}23} &= 0. \\ \Gamma^0_{\hspace{0.1cm}30} &= 0. \\ \Gamma^0_{\hspace{0.1cm}31} &= 0. \\ \Gamma^0_{\hspace{0.1cm}32} &= 0. \\ \Gamma^0_{\hspace{0.1cm}33} &= 0.\end{aligned}$$

$$\begin{aligned}\Gamma^1_{\hspace{0.1cm}00} &= 2\frac{g\cosh(tg)^2 + \sinh(tg)^2g}{4\sinh(tg)^2\cosh(tg)^2 + \cosh(tg)^2 - \sinh(tg)^2}. \\ \Gamma^1_{\hspace{0.1cm}01} &= 0. \\ \Gamma^1_{\hspace{0.1cm}02} &= 0. \\ \Gamma^1_{\hspace{0.1cm}03} &= 0. \\ \Gamma^1_{\hspace{0.1cm}10} &= 0. \\ \Gamma^1_{\hspace{0.1cm}11} &= 0. \\ \Gamma^1_{\hspace{0.1cm}12} &= 0. \\ \Gamma^1_{\hspace{0.1cm}13} &= 0. \\ \Gamma^1_{\hspace{0.1cm}20} &= 0. \\ \Gamma^1_{\hspace{0.1cm}21} &= 0. \\ \Gamma^1_{\hspace{0.1cm}22} &= 0. \\ \Gamma^1_{\hspace{0.1cm}23} &= 0. \\ \Gamma^1_{\hspace{0.1cm}30} &= 0. \\ \Gamma^1_{\hspace{0.1cm}31} &= 0. \\ \Gamma^1_{\hspace{0.1cm}32} &= 0. \\ \Gamma^1_{\hspace{0.1cm}33} &= 0.\end{aligned}$$

$$\begin{aligned}\Gamma_{00}^2 &= 0, \\ \Gamma_{01}^2 &= 0, \\ \Gamma_{02}^2 &= 0, \\ \Gamma_{03}^2 &= 0, \\ \Gamma_{10}^2 &= 0, \\ \Gamma_{11}^2 &= 0, \\ \Gamma_{12}^2 &= 0, \\ \Gamma_{13}^2 &= 0, \\ \Gamma_{20}^2 &= 0, \\ \Gamma_{21}^2 &= 0, \\ \Gamma_{22}^2 &= 0, \\ \Gamma_{23}^2 &= 0, \\ \Gamma_{30}^2 &= 0, \\ \Gamma_{31}^2 &= 0, \\ \Gamma_{32}^2 &= 0, \\ \Gamma_{33}^2 &= 0.\end{aligned}$$

$$\begin{aligned}\Gamma_{00}^3 &= 0, \\ \Gamma_{01}^3 &= 0, \\ \Gamma_{02}^3 &= 0, \\ \Gamma_{03}^3 &= 0, \\ \Gamma_{10}^3 &= 0, \\ \Gamma_{11}^3 &= 0, \\ \Gamma_{12}^3 &= 0, \\ \Gamma_{13}^3 &= 0, \\ \Gamma_{20}^3 &= 0, \\ \Gamma_{21}^3 &= 0, \\ \Gamma_{22}^3 &= 0, \\ \Gamma_{23}^3 &= 0, \\ \Gamma_{30}^3 &= 0, \\ \Gamma_{31}^3 &= 0, \\ \Gamma_{32}^3 &= 0, \\ \Gamma_{33}^3 &= 0.\end{aligned}$$

$$\boxed{R_{\mu\nu}}$$

$$\begin{aligned}R_{00} &= 0, \\ R_{01} &= 0, \\ R_{02} &= 0, \\ R_{03} &= 0, \\ R_{10} &= 0, \\ R_{11} &= 0, \\ R_{12} &= 0, \\ R_{13} &= 0, \\ R_{20} &= 0, \\ R_{21} &= 0, \\ R_{22} &= 0, \\ R_{23} &= 0, \\ R_{30} &= 0, \\ R_{31} &= 0, \\ R_{32} &= 0, \\ R_{33} &= 0.\end{aligned}$$

$$\boxed{R^\nu_\nu}$$

$$\begin{aligned}R^0_0 &= 0, \\ R^0_1 &= 0, \\ R^0_2 &= 0, \\ R^0_3 &= 0, \\ R^1_0 &= 0, \\ R^1_1 &= 0, \\ R^1_2 &= 0, \\ R^1_3 &= 0, \\ R^2_0 &= 0, \\ R^2_1 &= 0, \\ R^2_2 &= 0, \\ R^2_3 &= 0, \\ R^3_0 &= 0, \\ R^3_1 &= 0, \\ R^3_2 &= 0, \\ R^3_3 &= 0.\end{aligned}$$

$$\boxed{R}$$

$$R = 0.$$

$$\boxed{G^\nu_\nu}$$

$$\begin{aligned}G^0_0 &= 0, \\ G^0_1 &= 0, \\ G^0_2 &= 0, \\ G^0_3 &= 0, \\ G^1_0 &= 0, \\ G^1_1 &= 0, \\ G^1_2 &= 0, \\ G^1_3 &= 0, \\ G^2_0 &= 0, \\ G^2_1 &= 0, \\ G^2_2 &= 0, \\ G^2_3 &= 0, \\ G^3_0 &= 0, \\ G^3_1 &= 0, \\ G^3_2 &= 0, \\ G^3_3 &= 0.\end{aligned}$$

$$\boxed{G}$$

$$G = 0.$$

$$\boxed{G^\mu_{\nu;\mu} = 0}$$

$$\begin{aligned}G^\mu_{\phantom{\mu}0;\mu} &= 0, \\ G^\mu_{\phantom{\mu}1;\mu} &= 0, \\ G^\mu_{\phantom{\mu}2;\mu} &= 0, \\ G^\mu_{\phantom{\mu}3;\mu} &= 0.\end{aligned}$$

$$g^{\mu\nu}\Gamma_{\mu\nu}^\lambda=0?$$

$$g^{\mu\nu}\Gamma_{\mu\nu}^0=4\frac{\sinh(tg)^3g\cosh(tg)}{4\sinh(tg)^2\cosh(tg)^2+\cosh(tg)^2-\sinh(tg)^2}+4\frac{\sinh(tg)g\cosh(tg)^3}{4\sinh(tg)^2\cosh(tg)^2+\cosh(tg)^2-\sinh(tg)^2}.$$

$$g^{\mu\nu}\Gamma_{\mu\nu}^1=2\frac{g\cosh(tg)^2}{4\sinh(tg)^2\cosh(tg)^2+\cosh(tg)^2-\sinh(tg)^2}+2\frac{\sinh(tg)^2g}{4\sinh(tg)^2\cosh(tg)^2+\cosh(tg)^2-\sinh(tg)^2}.$$

$$g^{\mu\nu}\Gamma_{\mu\nu}^2=0.$$

$$g^{\mu\nu}\Gamma_{\mu\nu}^3=0.$$