

Kugeloberfläche 2D:

$x^\mu$

$x^0 = \theta.$   
 $x^1 = \phi.$

$g_{\mu\nu}$

$g_{00} = r^2.$   
 $g_{01} = 0.$   
 $g_{10} = 0.$   
 $g_{11} = r^2 \sin(\theta)^2.$

$\sqrt{\hspace{0.05cm}} = \sqrt{-\det(g_{\mu\nu})}$

$\sqrt{\hspace{0.05cm}} = \sqrt{-r^4 \sin(\theta)^2}.$

$g^{\mu\nu}$

$g^{00} = \frac{1}{r^2}.$   
 $g^{01} = 0.$   
 $g^{10} = 0.$   
 $g^{11} = \frac{1}{r^2 \sin(\theta)^2}.$

$\Gamma^\sigma_{\mu\nu}$

$\Gamma^0_{00} = 0.$   
 $\Gamma^0_{01} = 0.$   
 $\Gamma^0_{10} = 0.$   
 $\Gamma^0_{11} = -\cos(\theta) \sin(\theta).$

$\Gamma^1_{00} = 0.$   
 $\Gamma^1_{01} = \frac{\cos(\theta)}{\sin(\theta)}$   
 $\Gamma^1_{10} = \frac{\cos(\theta)}{\sin(\theta)}$   
 $\Gamma^1_{11} = 0.$

$R_{\mu\nu}$

$R_{00} = -1.$   
 $R_{01} = 0.$   
 $R_{10} = 0.$   
 $R_{11} = -\sin(\theta)^2.$

$R^\mu_{\nu}$

$R^0_0 = -\frac{1}{r^2}.$   
 $R^0_1 = 0.$   
 $R^1_0 = 0.$   
 $R^1_1 = -\frac{1}{r^2}.$

$R$

$R = -2\frac{1}{r^2}.$

$G^\mu_\nu$

$G^0_0 = 0.$   
 $G^0_1 = 0.$   
 $G^1_0 = 0.$   
 $G^1_1 = 0.$

$G$

$G = 0.$

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

$G^\mu_{b;\mu} = 0.$   
 $G^\mu_{1;\mu} = 0.$

$g^{\mu\nu} \Gamma^\lambda_{\mu\nu} = 0?$

$g^{\mu\nu} \Gamma^0_{\mu\nu} = -\cos(\theta)r^2 \sin(\theta)^3.$   
 $g^{\mu\nu} \Gamma^1_{\mu\nu} = 0.$