

$$\Gamma_{00}^0 = \frac{(r(a^2 + r^2 - 2r) + (1 - r)(a^2 \cos^2(\theta) + r^2))(1.0a^2 + 1.0r^2 - 2.0r)}{(a^2 \cos^2(\theta) + r^2)(a^2 + r^2 - 2r)^2}$$

$$\Gamma_{01}^0 = -\frac{0.5a^2 \sin(2\theta)}{a^2 \cos^2(\theta) + r^2}$$

$$\Gamma_{02}^0 = 0$$

$$\Gamma_{03}^0 = 0$$

$$\Gamma_{10}^0 = -\frac{0.5a^2 \sin(2\theta)}{a^2 \cos^2(\theta) + r^2}$$

$$\Gamma_{11}^0 = -\frac{1.0r(a^2 \sin^2(\theta) - 2r)}{a^2 \cos^2(\theta) + r^2}$$

$$\Gamma_{12}^0 = 0$$

$$\Gamma_{13}^0 = 0$$

$$\Gamma_{20}^0 = 0$$

$$\Gamma_{21}^0 = 0$$

$$\Gamma_{22}^0 = \frac{1.0 \left(r(a^2 \cos^2(\theta) + r^2)^3 + (-a^2 - r^2 + 2r) \left(-2a^2 r^2 \sin^2(\theta) + a^2(a^2 \cos^2(\theta) + r^2) \sin^2(\theta) + \right. \right.}{(a^2 \cos^2(\theta) + r^2)^3}$$

$$\Gamma_{23}^0 = \frac{1.0a(a^2 \cos^2(\theta) - r^2)(a^2 + r^2 - 2r) \sin^2(\theta)}{(a^2 \cos^2(\theta) + r^2)^3}$$

$$\Gamma_{30}^0 = 0$$

$$\Gamma_{31}^0 = 0$$

$$\Gamma_{32}^0 = \frac{1.0a(a^2 \cos^2(\theta) - r^2)(a^2 + r^2 - 2r) \sin^2(\theta)}{(a^2 \cos^2(\theta) + r^2)^3}$$

$$\Gamma_{33}^0 = \frac{(a^2 \cos^2(\theta) - r^2)(-1.0a^2 - 1.0r^2 + 2.0r)}{(a^2 \cos^2(\theta) + r^2)^3}$$

$$\Gamma_{00}^1 = \frac{0.5a^2 \sin(2\theta)}{(a^2 \cos^2(\theta) + r^2)(a^2 + r^2 - 2r)}$$

$$\Gamma_{01}^1 = -\frac{1.0a^2 \cos^2(\theta)}{r(a^2 \cos^2(\theta) + r^2)}$$

$$\Gamma^1_{02} = 0$$

$$\Gamma^1_{03} = 0$$

$$\Gamma^1_{10} = -\frac{1.0a^2 \cos^2(\theta)}{r(a^2 \cos^2(\theta) + r^2)}$$

$$\Gamma^1_{11} = -\frac{0.5a^2 \sin(2\theta)}{a^2 \cos^2(\theta) + r^2}$$

$$\Gamma^1_{12} = 0$$

$$\Gamma^1_{13} = 0$$

$$\Gamma^1_{20} = 0$$

$$\Gamma^1_{21} = 0$$

$$\Gamma^1_{22} = -\frac{\left(2.0a^2r(a^2 + r^2)\sin^2(\theta) - 1.0(a^2 \cos^2(\theta) + r^2)^3 + 1.0(a^2 \cos^2(\theta) + r^2)(2a^2r \sin^2(\theta) + (a^2 \cos^2(\theta) + r^2)^3)\right)}{(a^2 \cos^2(\theta) + r^2)^3}$$

$$\Gamma^1_{23} = \frac{1.0ar(a^2 + r^2)\sin(2\theta)}{(a^2 \cos^2(\theta) + r^2)^3}$$

$$\Gamma^1_{30} = 0$$

$$\Gamma^1_{31} = 0$$

$$\Gamma^1_{32} = \frac{1.0ar(a^2 + r^2)\sin(2\theta)}{(a^2 \cos^2(\theta) + r^2)^3}$$

$$\Gamma^1_{33} = -\frac{1.0a^2r \sin(2\theta)}{(a^2 \cos^2(\theta) + r^2)^3}$$

$$\Gamma^2_{00} = 0$$

$$\Gamma^2_{01} = 0$$

$$\Gamma^2_{02} = \frac{a^2(-1.0a^4 \cos^4(\theta) - 2.0a^2r^2 \cos^2(\theta) + 0.125a^2r(\cos(4\theta) - 1) + 2.0a^2r \cos^2(\theta) - 1.0r^4 - 3r(a^2 \cos^2(\theta) + r^2)^2(1.0a^2 + 1.0r^2 - 2.0r))}{r(a^2 \cos^2(\theta) + r^2)^2(1.0a^2 + 1.0r^2 - 2.0r)}$$

$$\Gamma^2_{03} = -\frac{1.0a(a^2 \cos^2(\theta) - r^2)}{(a^2 \cos^2(\theta) + r^2)^2(a^2 + r^2 - 2r)}$$

$$\Gamma^2_{10} = 0$$

$$\Gamma^2_{11} = 0$$

$$\begin{aligned}
\Gamma_{12}^2 &= \frac{2.0a^2r \sin(2\theta)}{2.0a^4 \cos^4(\theta) + 4.0a^2r^2 \cos^2(\theta) + 2.0r^4} \\
\Gamma_{13}^2 &= -\frac{2.0ar}{(a^2 \cos^2(\theta) + r^2)^2 \tan(\theta)} \\
\Gamma_{20}^2 &= \frac{a^2(-1.0a^4 \cos^4(\theta) - 2.0a^2r^2 \cos^2(\theta) + 0.125a^2r(\cos(4\theta) - 1) + 2.0a^2r \cos^2(\theta) - 1.0r^4 - 3}{r(a^2 \cos^2(\theta) + r^2)^2(1.0a^2 + 1.0r^2 - 2.0r)} \\
\Gamma_{21}^2 &= \frac{2.0a^2r \sin(2\theta)}{2.0a^4 \cos^4(\theta) + 4.0a^2r^2 \cos^2(\theta) + 2.0r^4} \\
\Gamma_{22}^2 &= 0 \\
\Gamma_{23}^2 &= 0 \\
\Gamma_{30}^2 &= -\frac{1.0a(a^2 \cos^2(\theta) - r^2)}{(a^2 \cos^2(\theta) + r^2)^2(a^2 + r^2 - 2r)} \\
\Gamma_{31}^2 &= -\frac{2.0ar}{(a^2 \cos^2(\theta) + r^2)^2 \tan(\theta)} \\
\Gamma_{32}^2 &= 0 \\
\Gamma_{33}^2 &= 0 \\
\Gamma_{00}^3 &= 0 \\
\Gamma_{01}^3 &= 0 \\
\Gamma_{02}^3 &= -\frac{a(-1.0a^4 \cos^2(\theta) + 1.0a^2r^2 \cos^2(\theta) + 1.0a^2r^2 + 3.0r^4) \sin^2(\theta)}{(a^2 \cos^2(\theta) + r^2)^2(1.0a^2 + 1.0r^2 - 2.0r)} \\
\Gamma_{03}^3 &= \frac{1.0(a^4 \sin^2(\theta) - a^4 + a^2r^2 \sin^2(\theta) + r^4)}{(a^2 \cos^2(\theta) + r^2)^2(a^2 + r^2 - 2r)} \\
\Gamma_{10}^3 &= 0 \\
\Gamma_{11}^3 &= 0 \\
\Gamma_{12}^3 &= \frac{2.0a^3r \sin^3(\theta) \cos(\theta)}{(a^2 \cos^2(\theta) + r^2)^2} \\
\Gamma_{13}^3 &= -\frac{4.0a^2r \sin(2\theta)}{4.0a^4 \cos^4(\theta) + 8.0a^2r^2 \cos^2(\theta) + 4.0r^4} \\
\Gamma_{20}^3 &= -\frac{a(-1.0a^4 \cos^2(\theta) + 1.0a^2r^2 \cos^2(\theta) + 1.0a^2r^2 + 3.0r^4) \sin^2(\theta)}{(a^2 \cos^2(\theta) + r^2)^2(1.0a^2 + 1.0r^2 - 2.0r)}
\end{aligned}$$

$$\Gamma^3_{21} = \frac{2.0a^3r \sin^3(\theta) \cos(\theta)}{(a^2 \cos^2(\theta) + r^2)^2}$$

$$\Gamma^3_{22} = 0$$

$$\Gamma^3_{23} = 0$$

$$\Gamma^3_{30} = \frac{1.0(a^4 \sin^2(\theta) - a^4 + a^2r^2 \sin^2(\theta) + r^4)}{(a^2 \cos^2(\theta) + r^2)^2 (a^2 + r^2 - 2r)}$$

$$\Gamma^3_{31} = -\frac{4.0a^2r \sin(2\theta)}{4.0a^4 \cos^4(\theta) + 8.0a^2r^2 \cos^2(\theta) + 4.0r^4}$$

$$\Gamma^3_{32} = 0$$

$$\Gamma^3_{33} = 0$$