axially symmetric photon field:

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

$x^0 = t.$
$x^1 = x.$
$x^2 = y.$
$x^3 = z.$

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

$g_{00} = 1 + 8mB(-\frac{1}{2}(z-t)\sqrt{2})\ln(\frac{\sqrt{y^2+x^2}}{\alpha}).$
$g_{01} = 0.$
$g_{02} = 0.$
$g_{03} = -8mB(-\frac{1}{2}(z-t)\sqrt{2})\ln(\frac{\sqrt{y^2+x^2}}{\alpha}).$
$g_{10} = 0.$
$g_{11} = -1.$
$g_{12} = 0.$
$g_{13} = 0.$
$g_{20} = 0.$
$g_{21} = 0.$
$g_{22} = -1.$
$g_{23} = 0.$
$g_{30} = -8mB(-\frac{1}{2}(z-t)\sqrt{2})\ln(\frac{\sqrt{y^2+x^2}}{\alpha}).$
$g_{31} = 0.$
$g_{32} = 0.$
$g_{33} = -1 + 8mB(-\frac{1}{2}(z-t)\sqrt{2})\ln(\frac{\sqrt{y^2+x^2}}{\alpha}).$

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

$\sqrt{\ } = 1.$

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

$g^{00} = 1 - 8mB(-\frac{1}{2}(z-t)\sqrt{2})\ln(\frac{\sqrt{y^2+x^2}}{\alpha}).$
$g^{01} = 0.$
$g^{02} = 0.$
$g^{03} = -8mB(-\frac{1}{2}(z-t)\sqrt{2})\ln(\frac{\sqrt{y^2+x^2}}{\alpha}).$
$g^{10} = 0.$
$g^{11} = -1.$
$g^{12} = 0.$
$g^{13} = 0.$
$g^{20} = 0.$
$g^{21} = 0.$
$g^{22} = -1.$
$g^{23} = 0.$
$g^{30} = -8mB(-\frac{1}{2}(z-t)\sqrt{2})\ln(\frac{\sqrt{y^2+x^2}}{\alpha}).$
$g^{31} = 0.$
$g^{32} = 0.$
$g^{33} = -1 - 8mB(-\frac{1}{2}(z-t)\sqrt{2})\ln(\frac{\sqrt{y^2+x^2}}{\alpha}).$

$\boxed{\Gamma^{\sigma}_{\mu\nu}}$

$\Gamma^0_{00} = 2m\ln(\frac{\sqrt{y^2+x^2}}{\alpha})\sqrt{2}B'(-\frac{1}{2}(z-t)\sqrt{2}).$
$\Gamma^0_{01} = 4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$
$\Gamma^0_{02} = 4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$
$\Gamma^0_{03} = -2m\ln(\frac{\sqrt{y^2+x^2}}{\alpha})\sqrt{2}B'(-\frac{1}{2}(z-t)\sqrt{2}).$
$\Gamma^0_{10} = 4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$
$\Gamma^0_{11} = 0.$
$\Gamma^0_{12} = 0.$
$\Gamma^0_{13} = -4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$
$\Gamma^0_{20} = 4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$
$\Gamma^0_{21} = 0.$
$\Gamma^0_{22} = 0.$
$\Gamma^0_{23} = -4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$
$\Gamma^0_{30} = -2m\ln(\frac{\sqrt{y^2+x^2}}{\alpha})\sqrt{2}B'(-\frac{1}{2}(z-t)\sqrt{2}).$
$\Gamma^0_{31} = -4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$
$\Gamma^0_{32} = -4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$
$\Gamma^0_{33} = 2m\ln(\frac{\sqrt{y^2+x^2}}{\alpha})\sqrt{2}B'(-\frac{1}{2}(z-t)\sqrt{2}).$

$\Gamma^1_{00} = 4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$
$\Gamma^1_{01} = 0.$
$\Gamma^1_{02} = 0.$
$\Gamma^1_{03} = -4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$
$\Gamma^1_{10} = 0.$
$\Gamma^1_{11} = 0.$
$\Gamma^1_{12} = 0.$
$\Gamma^1_{13} = 0.$
$\Gamma^1_{20} = 0.$
$\Gamma^1_{21} = 0.$
$\Gamma^1_{22} = 0.$
$\Gamma^1_{23} = 0.$
$\Gamma^1_{30} = -4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$
$\Gamma^1_{31} = 0.$
$\Gamma^1_{32} = 0.$
$\Gamma^1_{33} = 4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$

$\Gamma^2_{00} = 4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$
$\Gamma^2_{01} = 0.$
$\Gamma^2_{02} = 0.$
$\Gamma^2_{03} = -4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$
$\Gamma^2_{10} = 0.$
$\Gamma^2_{11} = 0.$
$\Gamma^2_{12} = 0.$
$\Gamma^2_{13} = 0.$
$\Gamma^2_{20} = 0.$
$\Gamma^2_{21} = 0.$
$\Gamma^2_{22} = 0.$
$\Gamma^2_{23} = 0.$
$\Gamma^2_{30} = -4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$
$\Gamma^2_{31} = 0.$
$\Gamma^2_{32} = 0.$
$\Gamma^2_{33} = 4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$

$\Gamma^3_{00} = 2m\ln(\frac{\sqrt{y^2+x^2}}{\alpha})\sqrt{2}B'(-\frac{1}{2}(z-t)\sqrt{2}).$
$\Gamma^3_{01} = 4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$
$\Gamma^3_{02} = 4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$
$\Gamma^3_{03} = -2m\ln(\frac{\sqrt{y^2+x^2}}{\alpha})\sqrt{2}B'(-\frac{1}{2}(z-t)\sqrt{2}).$
$\Gamma^3_{10} = 4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$
$\Gamma^3_{11} = 0.$
$\Gamma^3_{12} = 0.$
$\Gamma^3_{13} = -4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$
$\Gamma^3_{20} = 4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$
$\Gamma^3_{21} = 0.$
$\Gamma^3_{22} = 0.$
$\Gamma^3_{23} = -4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$
$\Gamma^3_{30} = -2m\ln(\frac{\sqrt{y^2+x^2}}{\alpha})\sqrt{2}B'(-\frac{1}{2}(z-t)\sqrt{2}).$
$\Gamma^3_{31} = -4\frac{mB(-\frac{1}{2}(z-t)\sqrt{2})x}{y^2+x^2}.$
$\Gamma^3_{32} = -4\frac{myB(-\frac{1}{2}(z-t)\sqrt{2})}{y^2+x^2}.$
$\Gamma^3_{33} = 2m\ln(\frac{\sqrt{y^2+x^2}}{\alpha})\sqrt{2}B'(-\frac{1}{2}(z-t)\sqrt{2}).$

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

$R_{00} = 0.$
$R_{01} = 0.$
$R_{02} = 0.$
$R_{03} = 0.$
$R_{10} = 0.$
$R_{11} = 0.$
$R_{12} = 0.$
$R_{13} = 0.$
$R_{20} = 0.$
$R_{21} = 0.$
$R_{22} = 0.$
$R_{23} = 0.$
$R_{30} = 0.$
$R_{31} = 0.$
$R_{32} = 0.$
$R_{33} = 0.$

$\boxed{R^{\mu}_{\ \nu}}$

$R^{0}_{\ 0} = 0.$
$R^{0}_{\ 1} = 0.$
$R^{0}_{\ 2} = 0.$
$R^{0}_{\ 3} = 0.$
$R^{1}_{\ 0} = 0.$
$R^{1}_{\ 1} = 0.$
$R^{1}_{\ 2} = 0.$
$R^{1}_{\ 3} = 0.$
$R^{2}_{\ 0} = 0.$
$R^{2}_{\ 1} = 0.$
$R^{2}_{\ 2} = 0.$
$R^{2}_{\ 3} = 0.$
$R^{3}_{\ 0} = 0.$
$R^{3}_{\ 1} = 0.$
$R^{3}_{\ 2} = 0.$
$R^{3}_{\ 3} = 0.$

$\boxed{R}$

$R = 0.$

$\boxed{G^{\mu}_{\ \nu}}$

$G^{0}_{\ 0} = 0.$
$G^{0}_{\ 1} = 0.$
$G^{0}_{\ 2} = 0.$
$G^{0}_{\ 3} = 0.$
$G^{1}_{\ 0} = 0.$
$G^{1}_{\ 1} = 0.$
$G^{1}_{\ 2} = 0.$
$G^{1}_{\ 3} = 0.$
$G^{2}_{\ 0} = 0.$
$G^{2}_{\ 1} = 0.$
$G^{2}_{\ 2} = 0.$
$G^{2}_{\ 3} = 0.$
$G^{3}_{\ 0} = 0.$
$G^{3}_{\ 1} = 0.$
$G^{3}_{\ 2} = 0.$
$G^{3}_{\ 3} = 0.$

$\boxed{G}$

$G = 0.$

$\boxed{G^{\mu}_{\ \nu:\mu} = 0}$

$G^{\mu}_{\ 0:\mu} = 0.$
$G^{\mu}_{\ 1:\mu} = 0.$
$G^{\mu}_{\ 2:\mu} = 0.$
$G^{\mu}_{\ 3:\mu} = 0.$

$\boxed{g^{\mu\nu}\,\Gamma^{\lambda}_{\mu\nu} = 0?}$

$$g^{\mu\nu}\,\Gamma^{0}_{\mu\nu} = 64m^2B(-\frac{1}{2}(z-t)\sqrt{2})\ln(\frac{\sqrt{y^2+x^2}}{\alpha})^2\sqrt{2}B'(-\frac{1}{2}(z-t)\sqrt{2}).$$

$$g^{\mu\nu}\,\Gamma^{1}_{\mu\nu} = 128\frac{m^2B(-\frac{1}{2}(z-t)\sqrt{2})^2\ln(\frac{\sqrt{y^2+x^2}}{\alpha})x}{y^2+x^2}.$$

$$g^{\mu\nu}\,\Gamma^{2}_{\mu\nu} = 128\frac{m^2yB(-\frac{1}{2}(z-t)\sqrt{2})^2\ln(\frac{\sqrt{y^2+x^2}}{\alpha})}{y^2+x^2}.$$

$$g^{\mu\nu}\,\Gamma^{3}_{\mu\nu} = 64m^2B(-\frac{1}{2}(z-t)\sqrt{2})\ln(\frac{\sqrt{y^2+x^2}}{\alpha})^2\sqrt{2}B'(-\frac{1}{2}(z-t)\sqrt{2}).$$