

Riemann Tensor (non-zero components)

$$R^t{}_{tr} = \frac{2GM}{r^2(-2GM + r)}$$

$$R^t{}_{rt} = \frac{2GM}{r^2(2GM - r)}$$

$$R^t{}_{\theta t\theta} = -\frac{GM}{r}$$

$$R^t{}_{\theta\theta t} = \frac{GM}{r}$$

$$R^t{}_{\phi t\phi} = -\frac{GM \sin^2(\theta)}{r}$$

$$R^t{}_{\phi\phi t} = \frac{GM \sin^2(\theta)}{r}$$

$$R^r{}_{tr} = \frac{2GM(-2GM + r)}{r^4}$$

$$R^r{}_{trt} = \frac{2GM(2GM - r)}{r^4}$$

$$R^r{}_{\theta r\theta} = -\frac{GM}{r}$$

$$R^r{}_{\theta\theta r} = \frac{GM}{r}$$

$$R^r{}_{\phi r\phi} = -\frac{GM \sin^2(\theta)}{r}$$

$$R^r{}_{\phi\phi r} = \frac{GM \sin^2(\theta)}{r}$$

$$R^\theta{}_{t\theta} = \frac{GM(2GM - r)}{r^4}$$

$$R^\theta{}_{t\theta t} = \frac{GM(-2GM + r)}{r^4}$$

$$R^\theta{}_{rr\theta} = \frac{GM}{r^2(-2GM + r)}$$

$$R^\theta_{r\theta r} = \frac{GM}{r^2(2GM - r)}$$

$$R^\theta_{\phi\theta\phi} = \frac{2GM \sin^2(\theta)}{r}$$

$$R^\theta_{\phi\phi\theta} = -\frac{2GM \sin^2(\theta)}{r}$$

$$R^\phi_{tt\phi} = \frac{GM(2GM - r)}{r^4}$$

$$R^\phi_{t\phi t} = \frac{GM(-2GM + r)}{r^4}$$

$$R^\phi_{rr\phi} = \frac{GM}{r^2(-2GM + r)}$$

$$R^\phi_{r\phi r} = \frac{GM}{r^2(2GM - r)}$$

$$R^\phi_{\theta\theta\phi} = -\frac{2GM}{r}$$

$$R^\phi_{\theta\phi\theta} = \frac{2GM}{r}$$