Metric

$$ds^2 = -\,dt^2 + \left(1 - f(r,t)\right) dr^2 + r^2\, d\theta^2 + r^2 \sin^2\theta \, d\phi^2$$

Curvature Invariants

$$R = \frac{r^2 f(r,t) \frac{\partial^2}{\partial t^2} f(r,t) - \frac{r^2 \left(\frac{\partial}{\partial t} f(r,t)\right)^2}{2} - r^2 \frac{\partial^2}{\partial t^2} f(r,t) - 2r \frac{\partial}{\partial r} f(r,t) + 2f^2(r,t) - 2f(r,t)}{r^2 \left(f^2(r,t) - 2f(r,t) + 1\right)}$$

$$R_{\mu\nu} R^{\mu\nu} = \text{(to be computed)}$$

Stress–Energy Tensor

$$T_{\mu\nu} = \begin{pmatrix} \frac{2r(f(r,t)-1)^3 \frac{\partial^2}{\partial t^2} f(r,t) + r(f(r,t)-1)^2 \left(\frac{\partial}{\partial t} f(r,t)\right)^2 - 2r(f(r,t)-1) \frac{\partial^2}{\partial t^2} f(r,t) - r\left(\frac{\partial}{\partial t} f(r,t)\right)^2 + 4(f(r,t)-1)^3 \left(-2f(r,t) - \frac{\partial}{\partial r} f(r,t) + 2\right) - 4(f(r,t)-1)^2 \frac{\partial}{\partial r} f(r,t)}{64\pi r (f(r,t)-1)^4} \\ -\frac{\frac{\partial}{\partial t} f(r,t)}{16\pi r (f(r,t)-1)} \\ 0 \\ 0 \end{pmatrix}$$