189(12) : Final Version of Metric and Line Element

By Occham's Razor choose the simplest possible solution:

$$n(r) = 2 - \exp\left(2\exp\left(-\frac{r}{3R}\right)\right) \quad -(1)$$

where R is a constant.

The line element is:

$$ds^2 = c^2 d\tau^2 = n(r)c^2dt^2 - \frac{dr^2}{n(r)} - r^2 d\theta^2 \quad -(2)$$

In the limit:

$$r \to \infty \quad -(3)$$

fit eqn (1) to:

$$n(r) = 1 - \frac{r_0}{r} \quad -(4)$$

The equation of orbits is found from eq. (1) using well known method.

The solution (1) is obtained from the constraint equation by assuming the particular integral 2 and the double exponential complementary function. So eq. (1) is rigorously correct with R a time and r independent constant.
