

189(4) : The Two Constraint Equations

These are:

$$3 \frac{\partial}{\partial r} \left(\frac{1}{m(r,t)} \frac{\partial m(r,t)}{\partial r} \right) + \frac{1}{2m^2(r,t)} \left(\frac{\partial m(r,t)}{\partial r} \right)^2 = 0 \quad \text{--- (1)}$$

and

$$3 \frac{\partial}{\partial t} \left(\frac{1}{n(r,t)} \frac{\partial n(r,t)}{\partial t} \right) + \frac{1}{2n^2(r,t)} \left(\frac{\partial n(r,t)}{\partial t} \right)^2 = 0 \quad \text{--- (2)}$$

The second is obtained from:

$$\begin{aligned} \partial_0 T^1_{01} &= R^1_{001} \\ &= \partial_0 \Gamma^1_{10} - \Gamma^1_{01} \Gamma^1_{01} \quad \text{--- (3)} \end{aligned}$$
