$$X + Y + Z = 1$$

$$\mu_{\text{ionized}} = \left(2X + \frac{3}{4}Y + \frac{1}{2}Z\right)^{-1}$$

$$\mu_{\text{neutral}} = \left(X + \frac{1}{4}Y + \frac{Z}{A}\right)^{-1}$$

$$T_c$$

$$\rho_c$$

$$p(i) = a + \left((1-i)i^2 + (i)i^{1/6}\right)(b-a)$$

$$\kappa_{\text{es}} = 0.02\,(1+X)\,\text{m}^2/\text{kg}$$

$$\kappa_{\text{ff}} = 1 \times 10^{24}\,(Z + 0.0001)\,\rho_3^{0.7} T^{-3.5} \text{m}^2/\text{kg}$$

$$\kappa_{H^-} = 2.5 \times 10^{-32}\,(Z/0.02)\,\rho_3^{0.5} T^9 \text{m}^2/\text{kg}$$

$$\kappa(\rho, T) = \left(\frac{1}{\kappa_{H^-}} + \frac{1}{\max(\kappa_{\text{es}}, \kappa_{\text{ff}})}\right)^{-1}$$

$$\tau(\infty) - \tau \approx \delta\tau \equiv \frac{\kappa\rho^2}{|\text{d}\rho/\text{d}r|}$$

$$\frac{\text{d}T}{\text{d}r} = -\min\begin{cases} \frac{3\kappa\rho L}{16\pi acT^3 r^2} \\ \left(1 - \frac{1}{\gamma}\right)\frac{T}{P}\frac{GM\rho}{r^2} \end{cases}$$