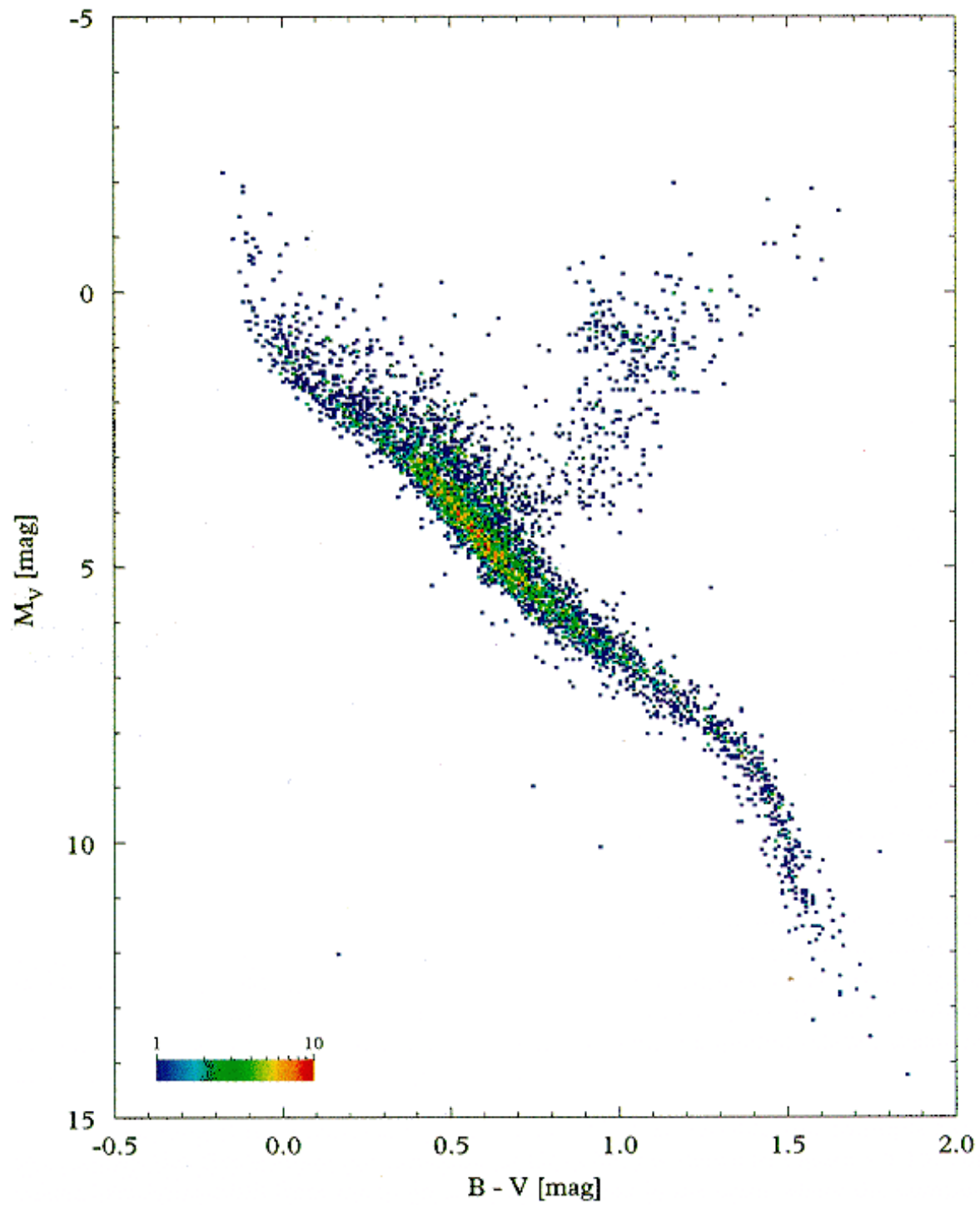
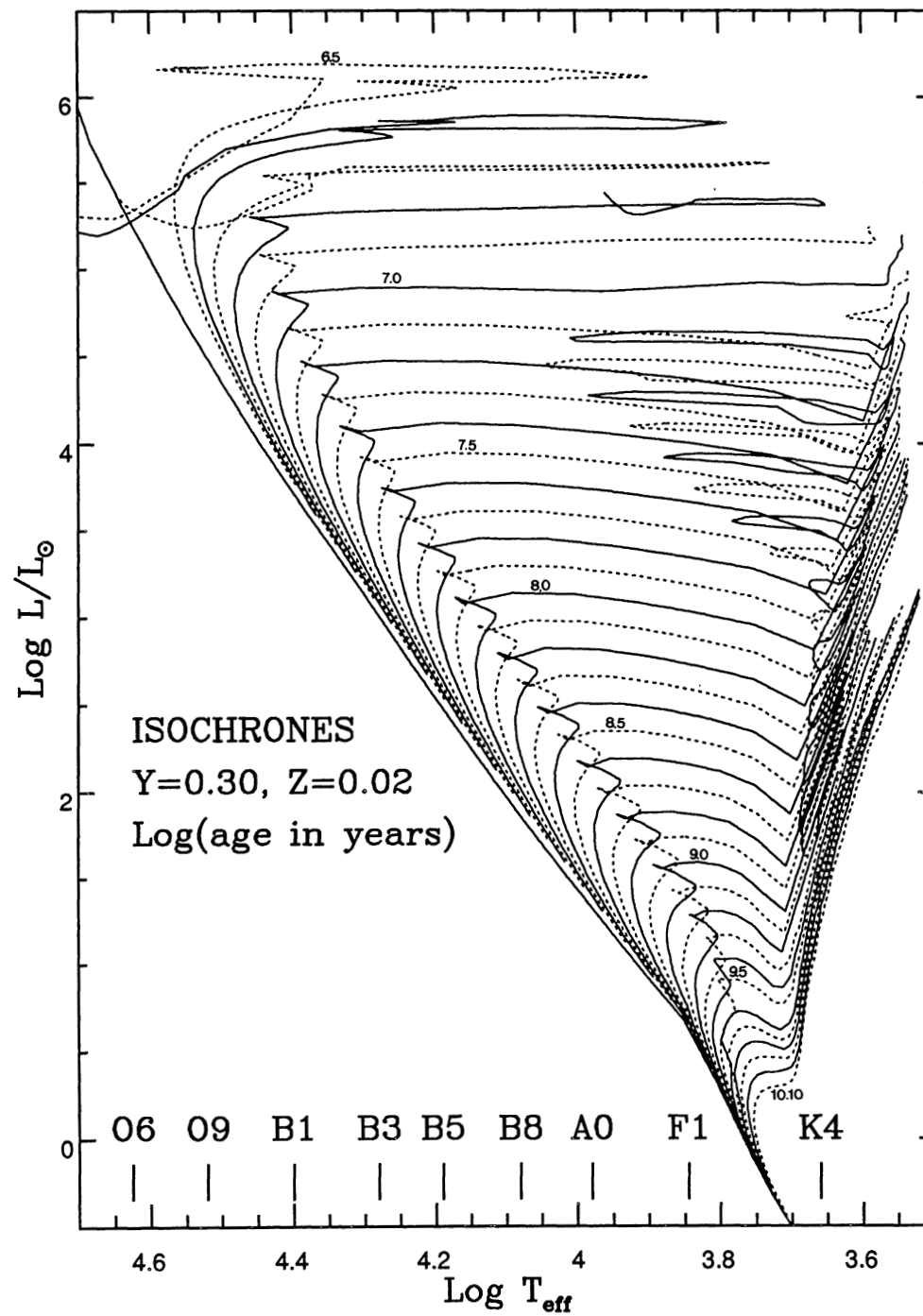


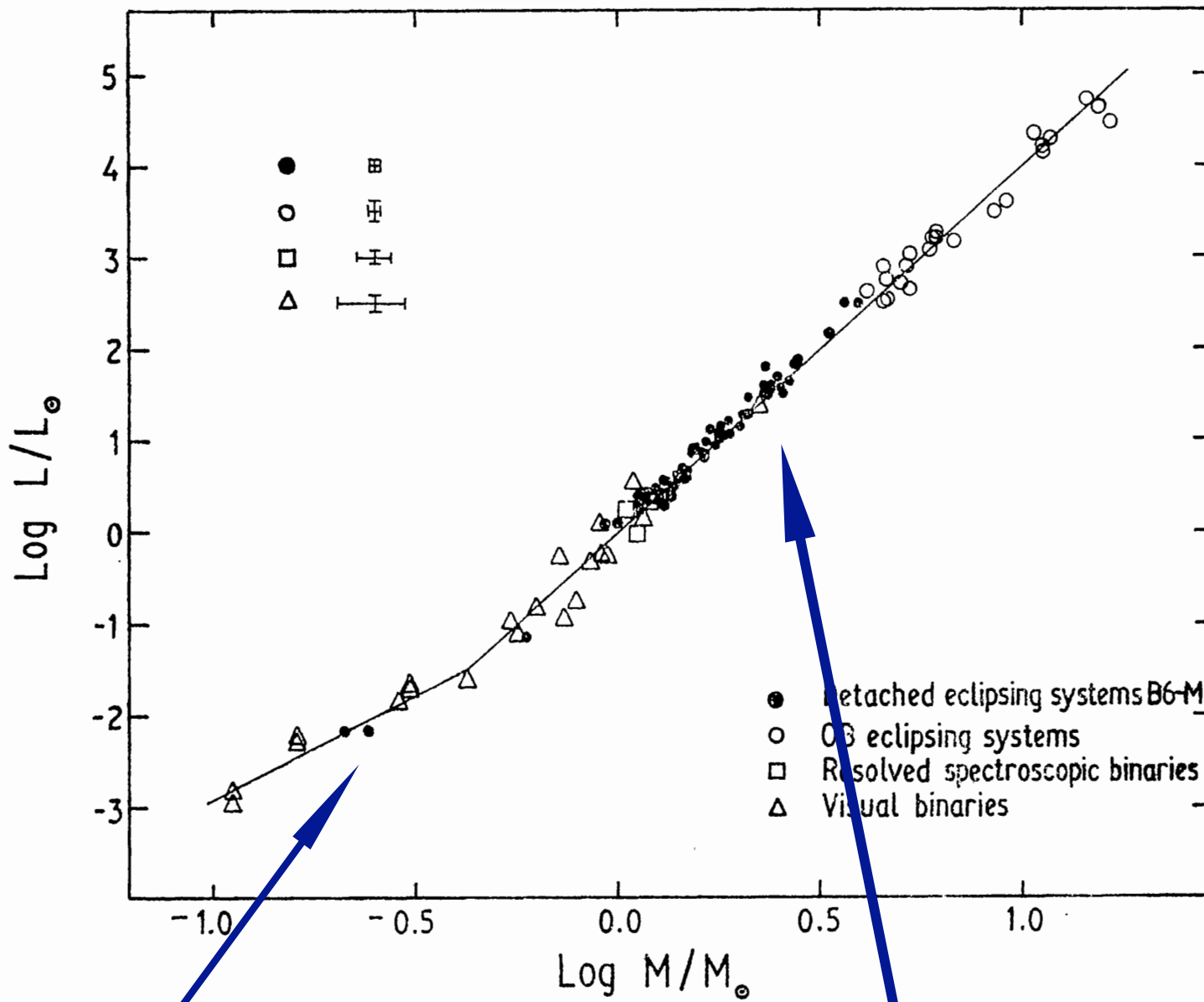


Structure and Evolution
of Stars
Lecture 9





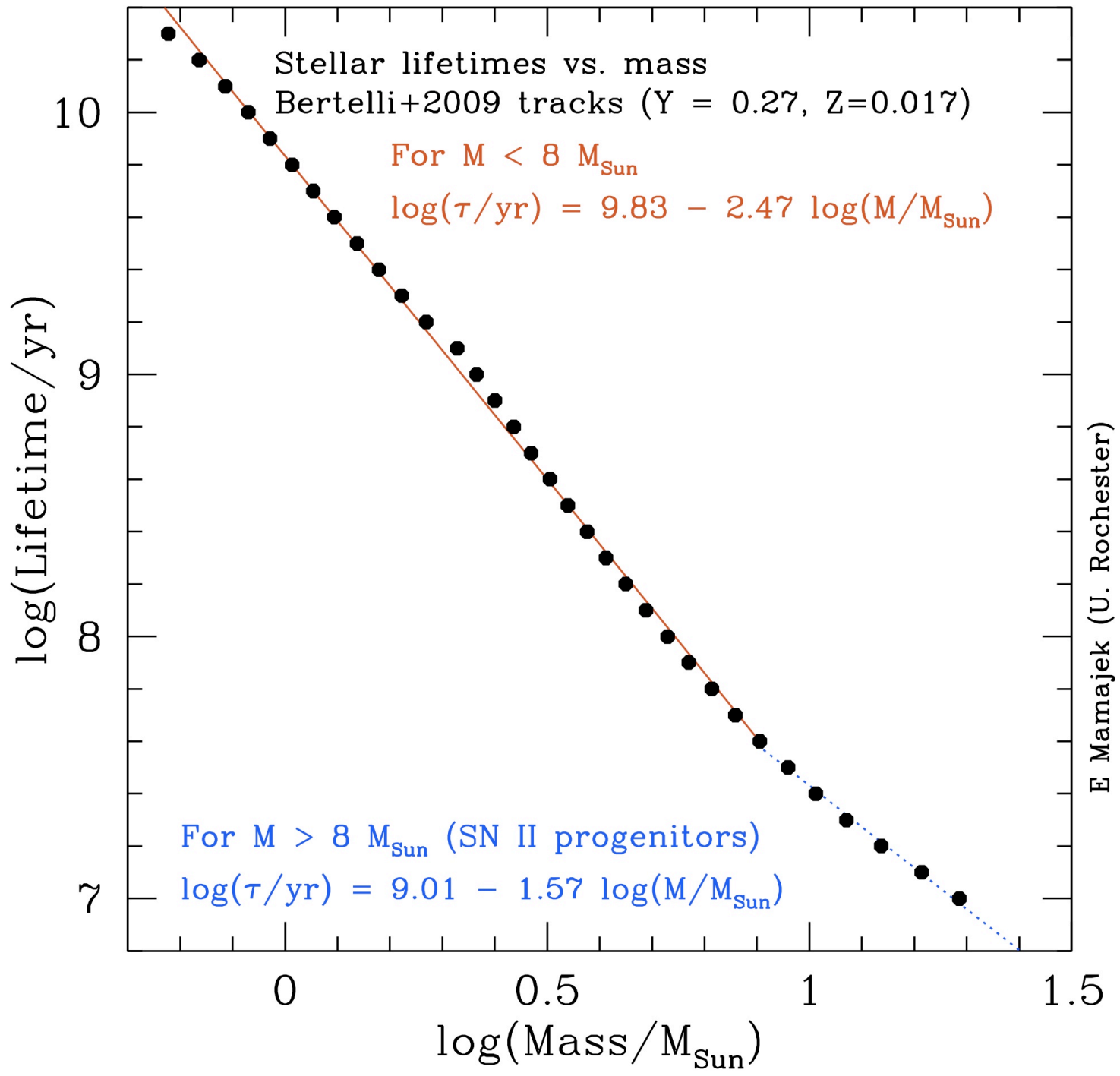




R C Smith 1983

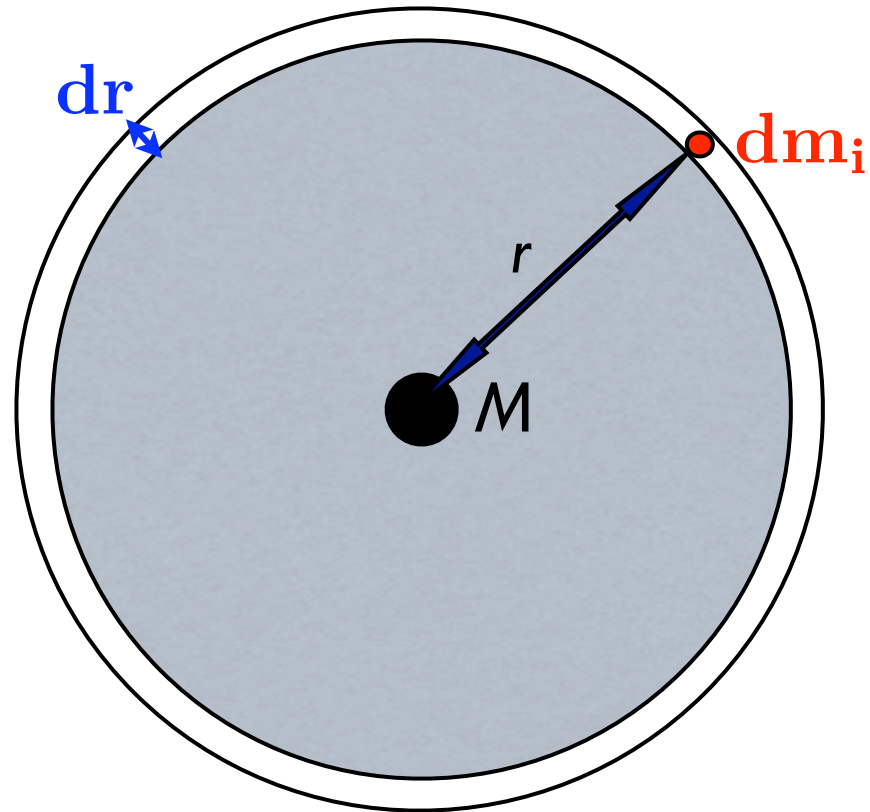
$$\frac{L}{L_{\odot}} \propto \left(\frac{M}{M_{\odot}} \right)^{2.3}$$

$$\frac{L}{L_{\odot}} \propto \left(\frac{M}{M_{\odot}} \right)^4$$



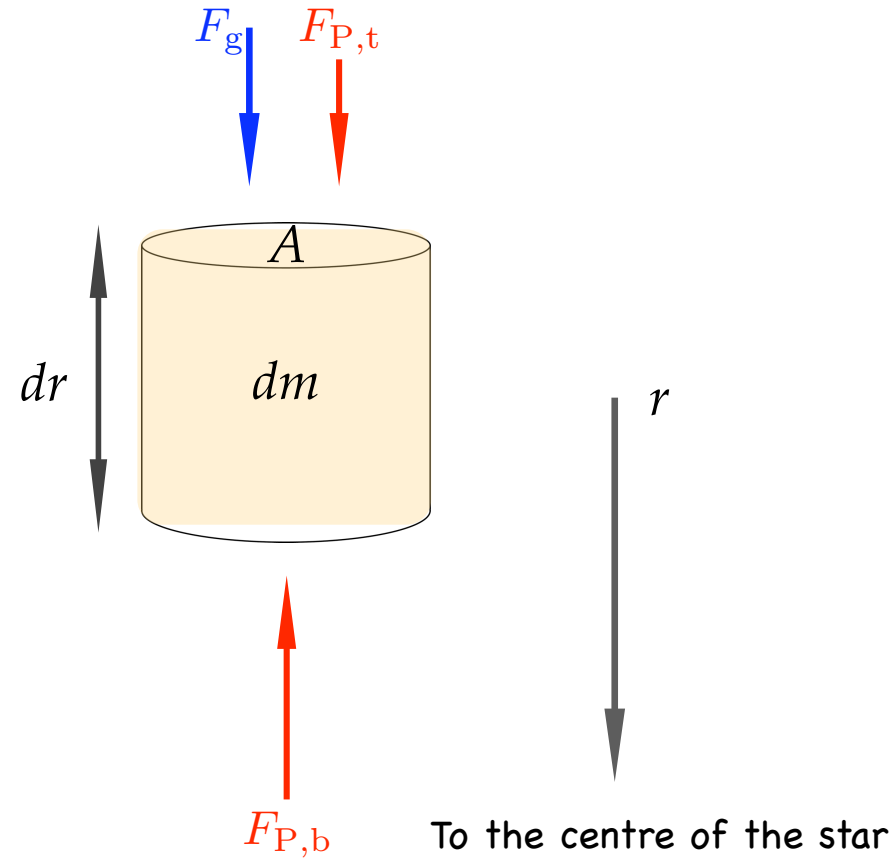
E Mamajek (U. Rochester)

The Mass Continuity Equation

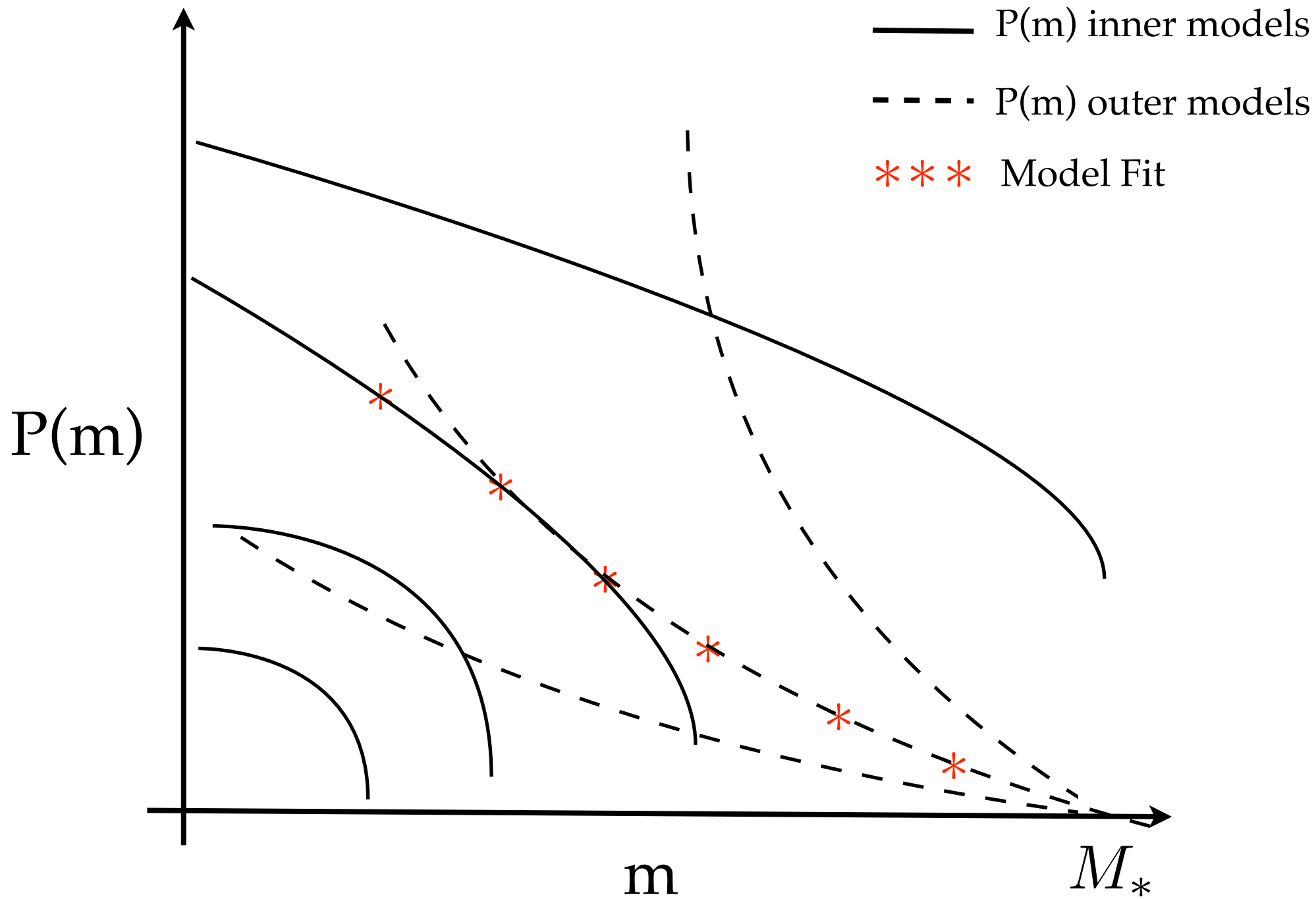


$$\frac{dm}{dr} = 4\pi r^2 \rho$$

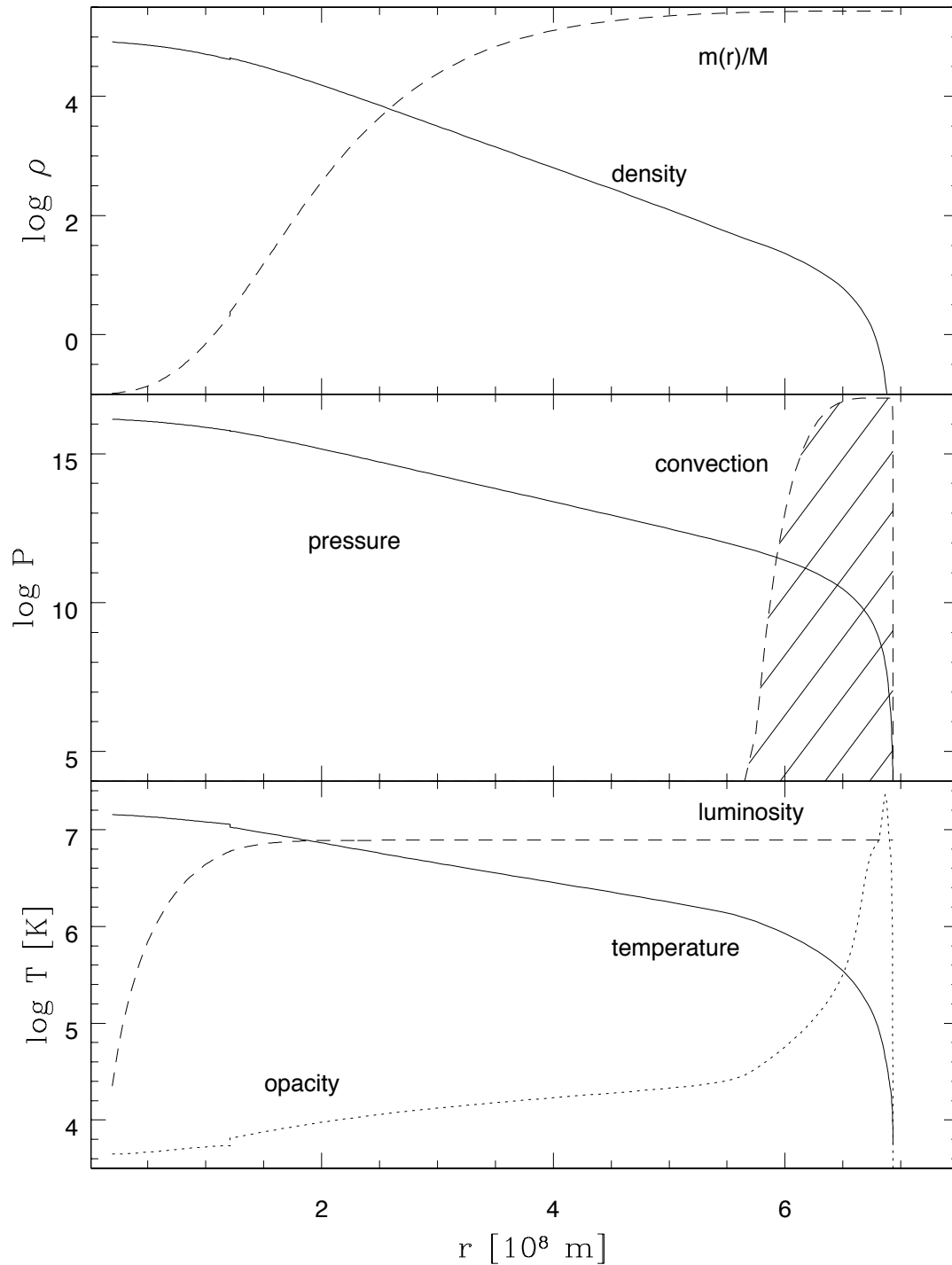
The Hydrostatic Equilibrium Equation



$$\frac{dP}{dr} = -G \frac{M_r \rho}{r^2}$$

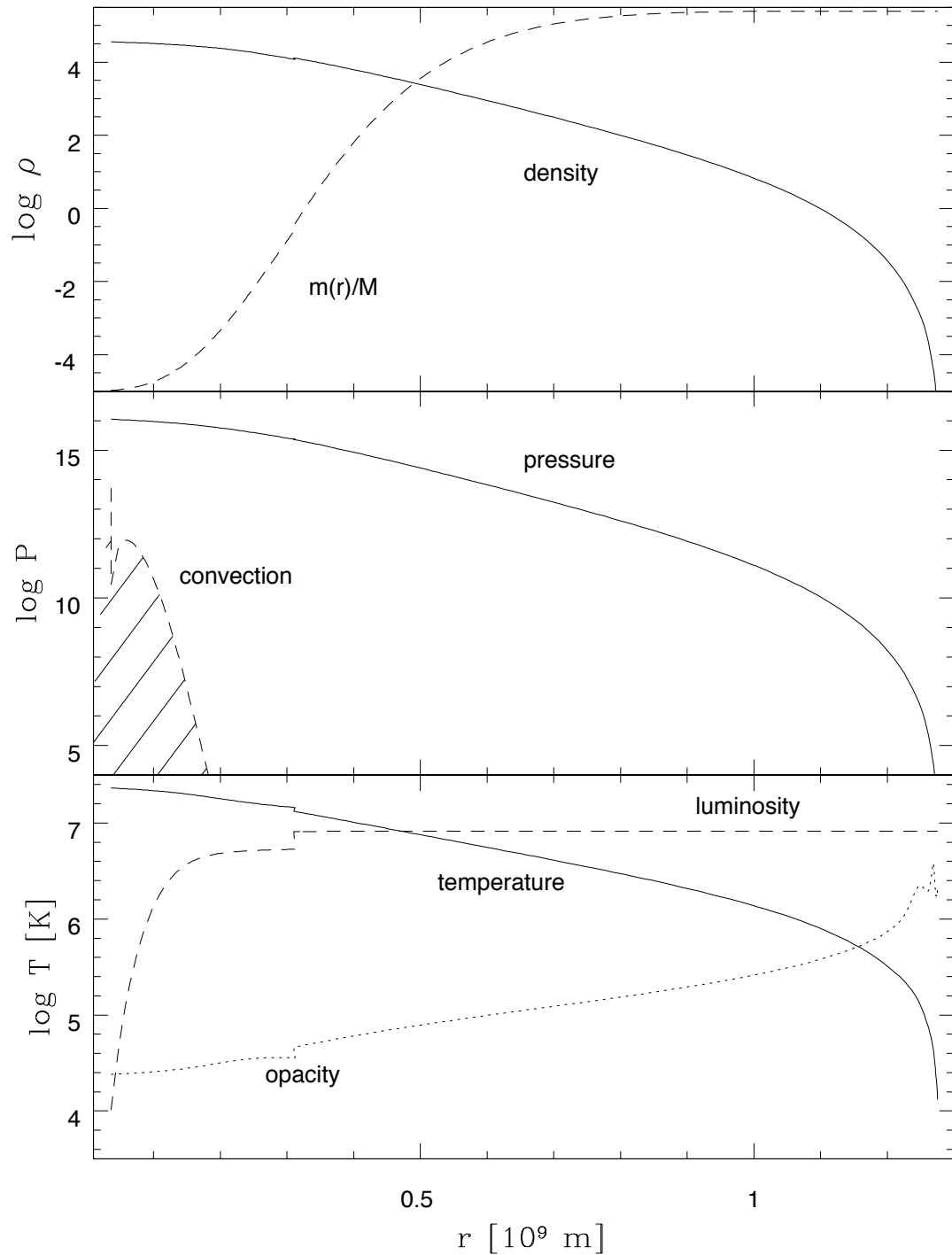






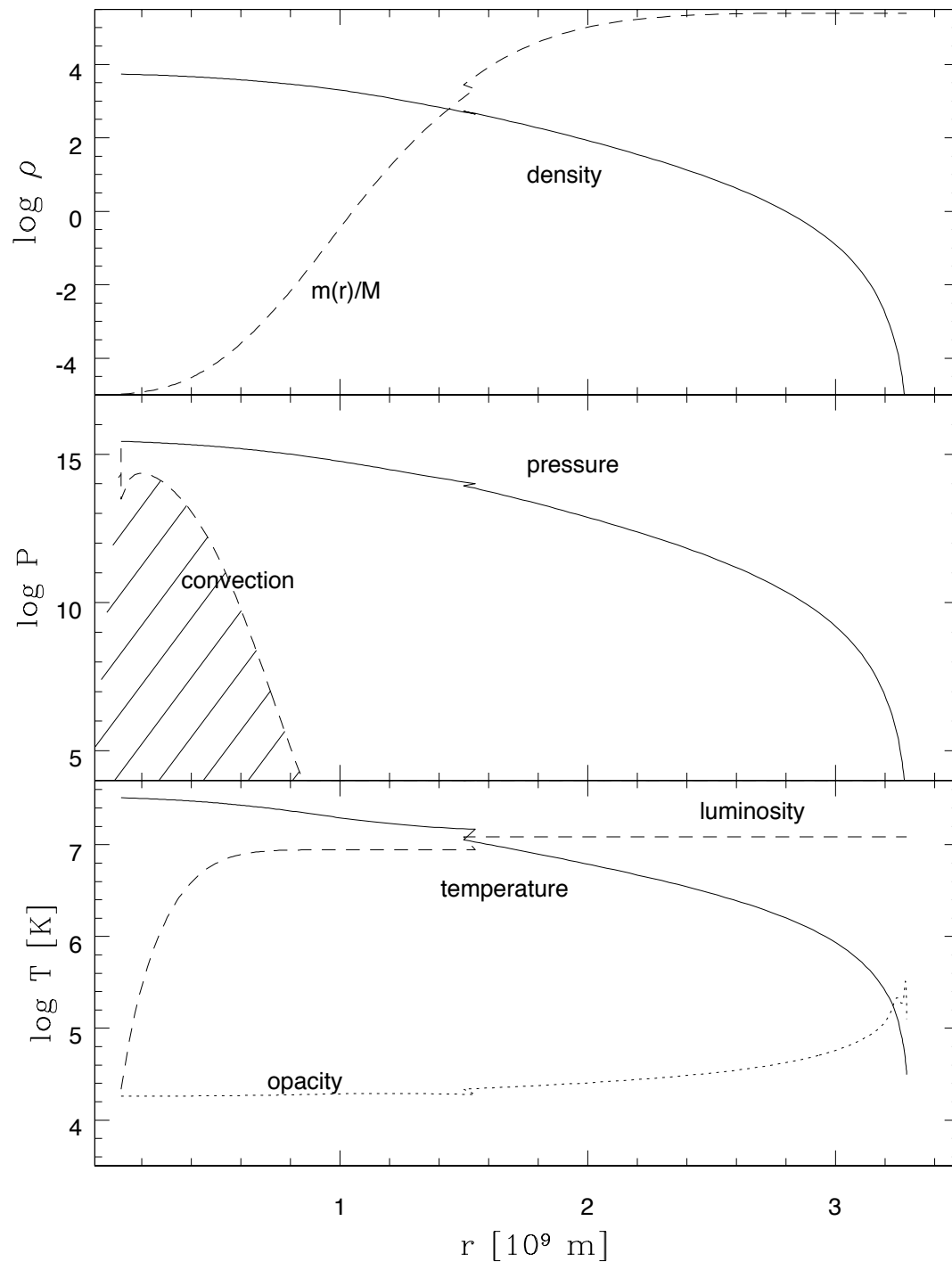
‘Real’ Stellar Model:

$$M = 1 M_{\odot}$$



'Real' Stellar Model:

$$M = 3 M_{\odot}$$



‘Real’ Stellar Model:

$$M = 15 M_{\odot}$$

