

3-22

Intensity = Power/unit area

$$I = \frac{\sigma T^4}{6}$$

← Stefan-Boltzmann

Area of human body = ?

model as a 2m long cylinder
0.1m in radius, neglect ends

$$A = 2 \cdot \pi \cdot 0.1 \cdot 2m$$

$$\approx 1.5m^2$$

Total Power =

$$1.5m^2 \cdot 6(300K)^4$$

$$= (3^4 \times 10^8)(1.5)(5.67 \times 10^{-8})W$$

$$\approx 600W$$