

A Relation for Planet Radius, Mass, and Incident Flux

Uncertainties: 10% 60% 25% 5%

(exoplanets.org)

$$\frac{R_P}{R_\oplus} = 1.78 \left(\frac{M_P}{M_\oplus} \right)^{0.53} \left(\frac{F}{\text{erg s}^{-1} \text{cm}^{-2}} \right)^{-0.03}$$

for $M_P < 150 M_\oplus$

$$\frac{R_P}{R_\oplus} = 2.45 \left(\frac{M_P}{M_\oplus} \right)^{-0.039} \left(\frac{F}{\text{erg s}^{-1} \text{cm}^{-2}} \right)^{0.094}$$

for $M_P > 150 M_\oplus$

