

$$\frac{R_{\text{P}}}{R_{\oplus}} = 1.09 \left(\frac{M_{\text{P}}}{M_{\oplus}} \right)^{0.56} \left(\frac{F}{F_{\oplus}} \right)^{-0.04} \quad (1)$$

$$\frac{R_{\text{P}}}{R_{\oplus}} = 7.29 \left(\frac{M_{\text{P}}}{M_{\oplus}} \right)^{-0.06} \left(\frac{F}{F_{\oplus}} \right)^{0.15} \quad (2)$$

$$\frac{\rho_{\text{P}}}{\text{g cm}^{-3}} = 5.49 \left(\frac{M_{\text{P}}}{M_{\oplus}} \right)^{-0.67} \left(\frac{F}{F_{\oplus}} \right)^{0.11} \quad (3)$$

$$\frac{\rho_{\text{P}}}{\text{g cm}^{-3}} = 0.02 \left(\frac{M_{\text{P}}}{M_{\oplus}} \right)^{1.18} \left(\frac{F}{F_{\oplus}} \right)^{-0.46} \quad (4)$$