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$$P = R \cdot \left(\frac{E}{R + R_g} \right)^2 = \frac{R \cdot E^2}{R^2 + 2 \cdot R \cdot R_g + R_g^2}$$

$$\frac{\partial P}{\partial R} = \frac{E^2 (R + R_g) - (2 \cdot R + 2 \cdot R_g) \cdot R \cdot E^2}{(R + R_g)^4}$$

$$R^2 + 2 \cdot R \cdot R_g + R_g^2 - 2 \cdot R^2 - 2 R \cdot R_g = 0$$

$$R_g^2 = R^2$$

$R = R_g$

$R_g = R$