

Analizando el Problema de TaylorEstablecer relación entre las Variables

• Energía	E	$[\text{Kg} \frac{\text{m}^2}{\text{s}^2}]$	$\left. \begin{array}{l} \\ \\ \\ \end{array} \right\} \begin{array}{l} E = E(P, T, R) \\ E \propto P^a T^b R^c \end{array}$
• densidad	ρ	$[\text{Kg}/\text{m}^3]$	
• Tiempo	t	$[\text{s}]$	
• Radio	R	$[\text{m}]$	

$$\textcircled{1} \dim[E] = \dim(P^a, t^b, R^c)$$

$$\dim[E] = [M \frac{L^2}{t^2}]$$

$$\textcircled{2} \dim(P^a, t^b, R^c) = \dim(P)^a (t)^b (R)^c$$

$$\dim(P)^a = [M/L^3]^a$$

$$\dim(t)^b = [t]^b$$

$$\dim(R)^c = [L]^c$$

$$\textcircled{3} \quad M \frac{L^2}{T^2} = [M/L^3]^a \cdot [T]^b \cdot [L]^c$$

$$M \frac{L^2}{T^2} = [M \cdot L^{-3}]^a \cdot [T]^b \cdot [L]^c$$

$$M \frac{L^2}{T^2} = M^a \cdot L^{-3a} \cdot T^b \cdot L^c$$

$$M \frac{L^2}{T^2} = M^a \cdot L^{-3a+c} \cdot T^b$$

$$\textcircled{4} \quad M^1 = M^a$$

$$1 = a$$

$$T^{-2} = T^b$$

$$-2 = b$$

$$L^2 = L^{-3 \cdot 1 + c}$$

$$2 = -3 + c$$

$$M \frac{L^2}{T^2} = M^1 \cdot L^{-3 \cdot 1 + 5} \cdot T^{-2}$$

$\textcircled{5}$

$$E(P, T, R) \Rightarrow$$

$$E(P^1, T^{-2}, R^5)$$