

$$D = \frac{1}{c} \frac{1}{L} \frac{dL}{dt} = \frac{1}{c} \frac{1}{P} \frac{dP}{dt}$$

$$D^2 = \frac{1}{P^2} \frac{P_0 - P}{P} \sim \frac{1}{P^2} \quad (1a)$$

$$D^2 = \frac{1}{3} \frac{P_0 - P}{T_0} \sim 10^9 \quad (2a)$$

$$D^2 \sim 10^{-92}$$

$$e \sim 10^{-26}$$

$$P \sim 10^3 \text{ g. J.}$$

$$t \sim 10^{10} (10^{11}) \text{ J.}$$

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