$$\langle (\Delta E)^2 \rangle \equiv \langle E^2 \rangle - \langle E \rangle^2$$

$$\| $$

$$-\left(\frac{\partial U}{\partial \beta}\right)_V \rightarrow V \text{ konstante} \Rightarrow$$

ez daoldáten

$$\left(\frac{\partial U}{\partial \beta}\right)_V = \left(\frac{\partial U}{\partial T}\right)_V \left(\frac{\partial T}{\partial \beta}\right)_V$$

$$\beta \equiv \frac{1}{k_B T}$$

$$d\beta = \frac{1}{k_B}\left(\frac{-1}{T^2}\right) dT \Rightarrow \frac{dT}{d\beta} = -k_B T^2$$

$$\left(\frac{\partial U}{\partial T}\right)_V = C_V$$

$$-\left(\frac{\partial U}{\partial \beta}\right) = -\left[C_V \cdot \left(-k_B T^2\right)\right] = C_V \cdot k_B T^2$$

$$\frac{\sqrt{\langle (\Delta E)^2 \rangle}}{\langle E \rangle} = \frac{\sqrt{k_B T^2 \cdot C_V}}{U}$$

extenzíva

abdalleta a Rahl $\approx \frac{1}{\sqrt{N}}$ $\quad N \to \infty \quad \rightsquigarrow 0$

$\Downarrow$