Makro N, V, E

$\vec{q} \in V$

$E = \frac{1}{2} m P^2$

$\longrightarrow$ aurreko ataletatik

definitzen $\Sigma(P)$

mikroegoeren kopurua

fase-espazioan eginez gero kalkulua

$$W \equiv \int \cdots \int d^3q \, d^3p$$

aldatuko dut bolumena $\rightarrow$

$$\underbrace{\int d^3q}_{V} \quad \underbrace{\int_{p \leq P} d^3p}_{= \frac{4}{3}\pi P^3}$$

$$\boxed{\Sigma(P) = \frac{1}{h^3} \cdot V \cdot \frac{4}{3} \pi P^3}$$

$\Downarrow$

beste kontzeptu bat: p eta $p + dp$ momentuen balioen arteko mikroegoeren kopurua $\Sigma = \Sigma(p)$ funtzioa

$\Downarrow$

$$g(p) \equiv \frac{d\Sigma(p)}{dp} \Rightarrow \boxed{g(p)\,dp = \frac{1}{h^3} \cdot V \, 4\pi p^2 \, dp}$$

$$\Sigma(E) = \frac{1}{h^3} V \frac{4\pi}{3} (2mE)^{3/2}$$

E, kontuz!

$$a(E)\,dE = \frac{1}{h^3} V \, 2\pi (2m)^{3/2} E^{1/2} dE$$

$$\boxed{\Gamma = \frac{\text{fase-espazioko bolumena}}{\text{mikroegoeren bolumen elementua}}}$$