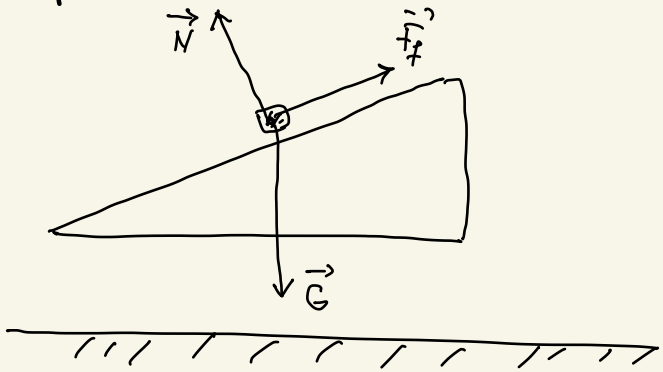
8 Decembrie 2021

FIZICĂ

Interacțiuni fundamentale în natură

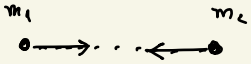


1) Interacțiunea gravitațională (atracție)

Newton.

↓

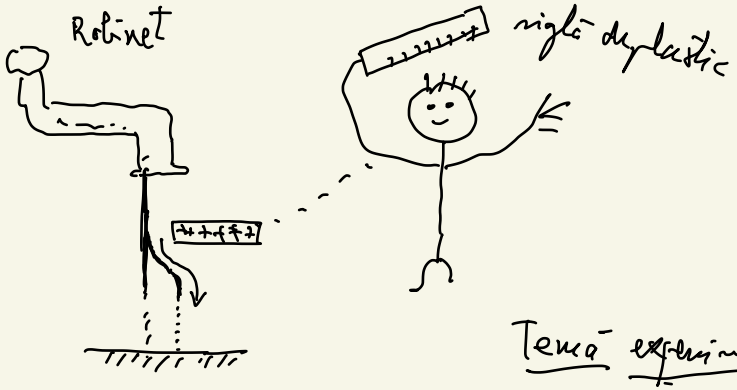
Einstein.



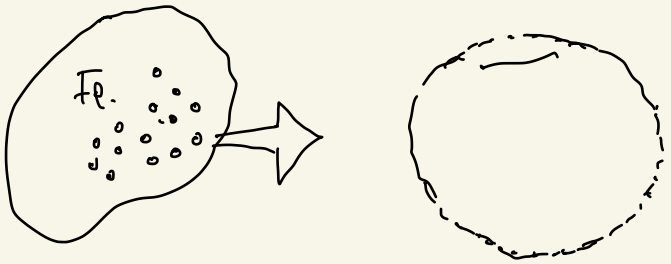
$$F = k \frac{m_1 m_2}{r^2}$$

$k = 6{,}67 \cdot 10^{-11}$ în S.I.

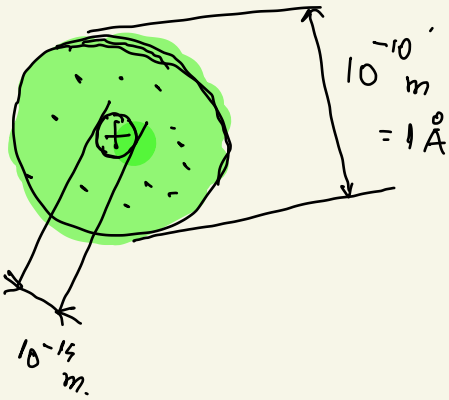
2) Interacțiune electromagnetică



Temă experimentală



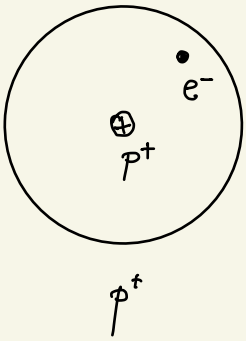
1913 - Rutherford →

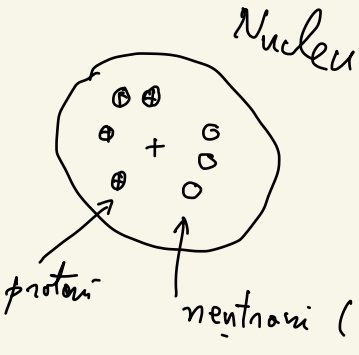


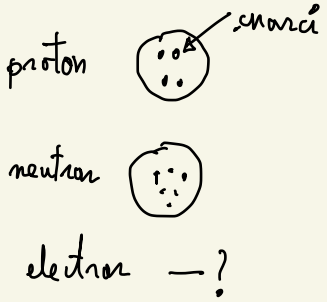
protonul → $\begin{cases} + \\ m_p \simeq 1{,}67 \cdot 10^{-27} \text{ kg} \end{cases}$

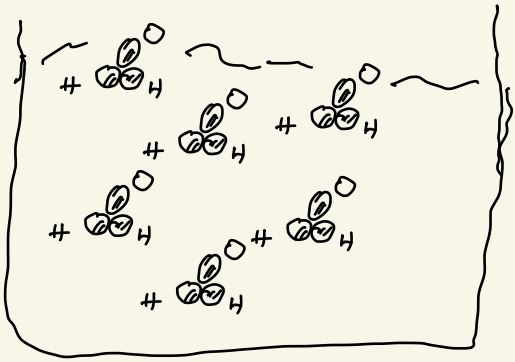
electronul → $\begin{cases} - \\ m_e \simeq 9{,}1 \cdot 10^{-31} \text{ kg}. \end{cases}$

$$\frac{m_p}{m_e} \simeq 1836$$



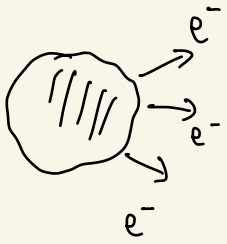






3) Interacțiunea tare (nucleară)

4) Interacțiunea slabă



dezintegrare β