

## Curs Electricitate (1)

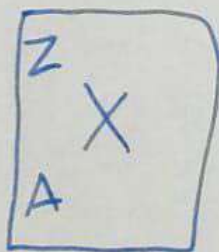
$$\left. \begin{array}{l} \text{Laborator} - 50\% \\ \text{Lucrare scrisă} - 50\% \end{array} \right\} \begin{array}{l} \text{Nota Electricitate} - 50\% \\ \text{Nota Mecanică} - 50\% \end{array} \Rightarrow \frac{E+M}{2} = \text{Nota Finală}$$

→ interacțiuni fundamentale (4)  
→ unificarea interacțiunilor

1. interacțiunea gravitațională structura la  
fora universale

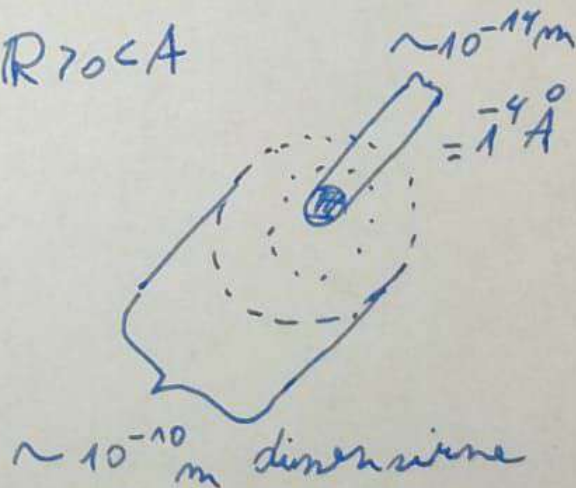
$$\begin{array}{c} M \quad m \\ \longrightarrow \quad \longleftarrow \\ \vec{F} \quad \vec{F} \end{array} \quad |\vec{F}| = G \cdot \frac{Mm}{r^2} ; G \approx 6,67 \cdot 10^{-11} = \frac{N \cdot m^2}{kg^2}$$

2. interacțiunea electromagnetică structura la  
fora forte, foarte



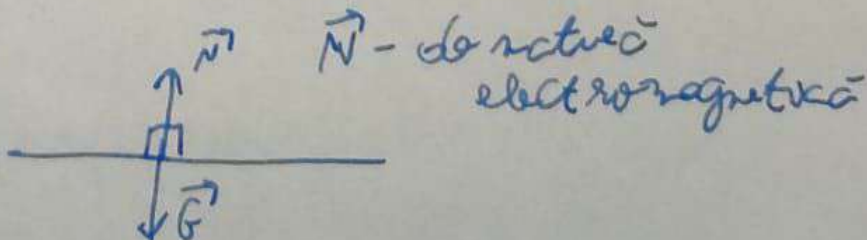
Z - nr atomic,  $Z \in \mathbb{Z}$   
A - nr de masă,  $A \in \mathbb{R}^+ \cap \mathbb{N}$   
Z - nr electroni

e - sarcină electrică negativă  
p - sarcină electrică pozitivă  
n - neutron



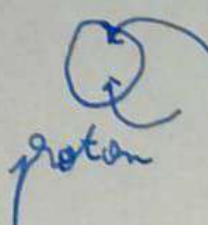
$$m_p \approx m_n \approx 1,67 \cdot 10^{-27} \text{ kg} = 1 \mu \quad 10^{-10} \text{ m} = 1 \text{ Å}$$

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



3. interacțiunea tare (nucleară)

cea mai puternică  
de la distanțe foarte mici



quark  
proton

The diagram shows a small circle with a dot in the center, representing a quark, and a larger circle with a dot in the center, representing a proton. The quark is positioned to the left of the proton.

4. interacțiunea slabă

