

1

Mass, Energy, and Nuclear Forces

Energy comes in many forms
and can be converted

Energy is ALWAYS conserved

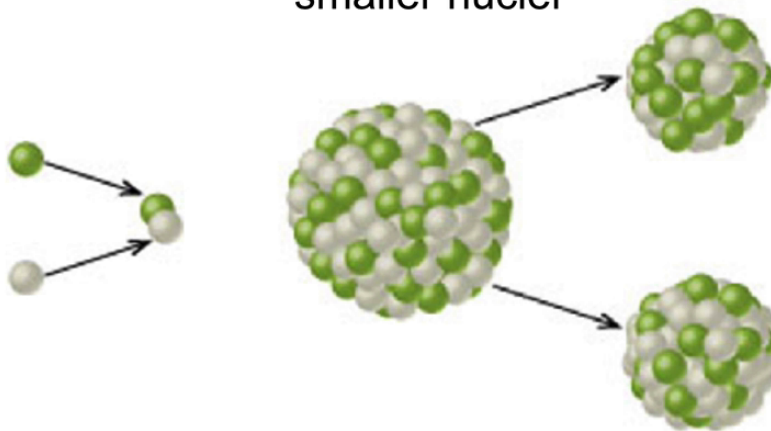
$$\text{Energy} = \text{Mass} * (\text{Speed of Light})^2$$

$$E = mc^2$$

Can convert between **Mass**
and **Energy**

2

Fusion Combines particles to make bigger nucleus. **Fission** breaks nucleus into two smaller nuclei

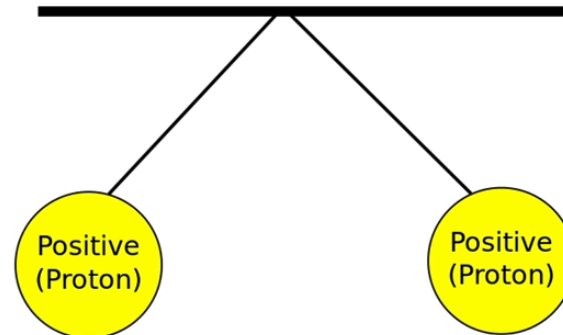


(a)

(b)

3

Opposite Charges Attract, Like
Charges Repel



Objects with the same charge repel.

4

Strong Nuclear Force keeps
Nucleus held together

Stronger than Electric Force, but only
works at VERY small scales



Albert Einstein: Found that
Mass is a form of Energy