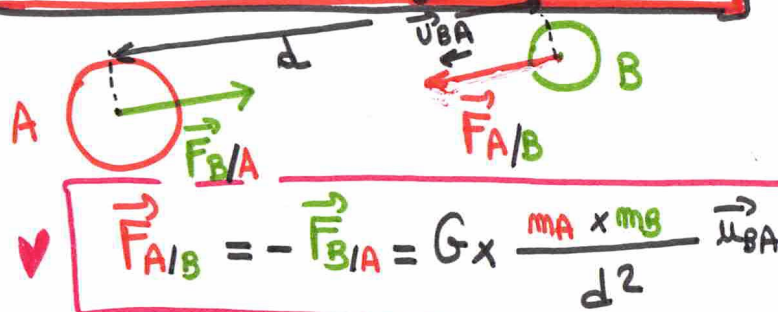


LES INTERACTIONS FONDAMENTALES

Interaction gravitationnelle

Force:



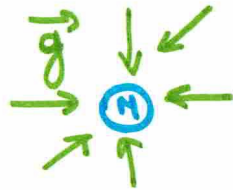
$$\vec{F}_{A/B} = -\vec{F}_{B/A} = G \times \frac{m_A \times m_B}{d^2} \vec{u}_{BA}$$

Champ:

$$\vec{g} = \frac{\vec{F}_{\text{gravit}}}{m}$$

$$g = G \times \frac{M}{d^2} \approx \text{intensité de pesanteur}$$

↳ centripète



ANALOGIES

varient en $1/d^2$

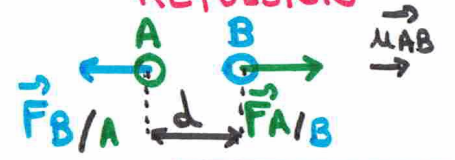
portée illimitée

champ = force caract.

Interaction électrostatique

Force:

$q_A \ q_B$ même signe
RÉPULSION

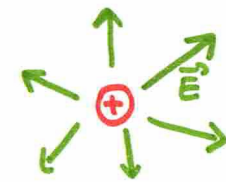


$q_A \ q_B$ signes opposés
ATTRACTION

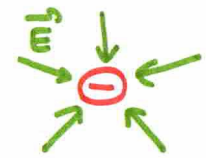


$$\vec{F}_{A/B} = -\vec{F}_{B/A} = k \times \frac{q_A \times q_B}{d^2} \vec{u}_{AB}$$

Champ:



$$\vec{E} = \frac{\vec{F}_{\text{elect}}}{q}$$



$$E = k \frac{Q}{r^2}$$

DIFFERENCES

caractéristiques
masse / charge

attractive / attractive / répulsive

prédominance
cosmique / microscopique humaine