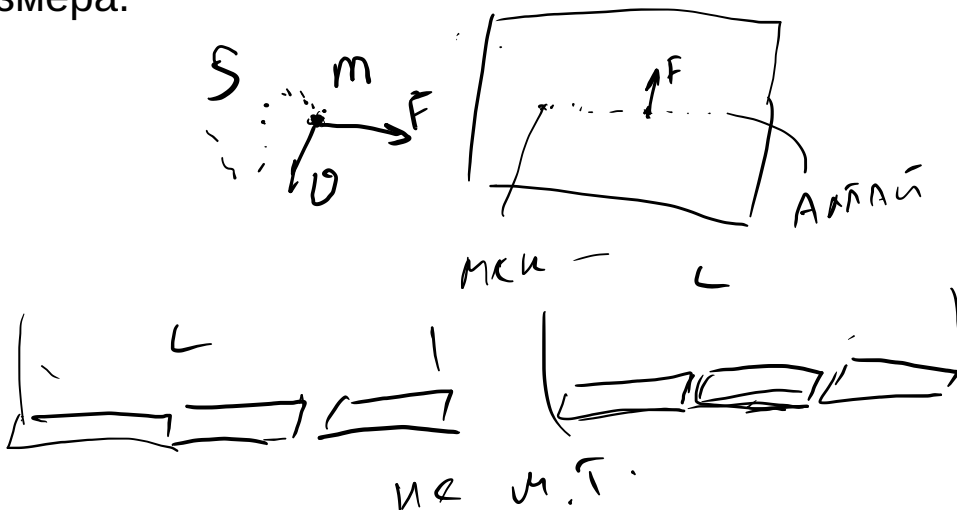
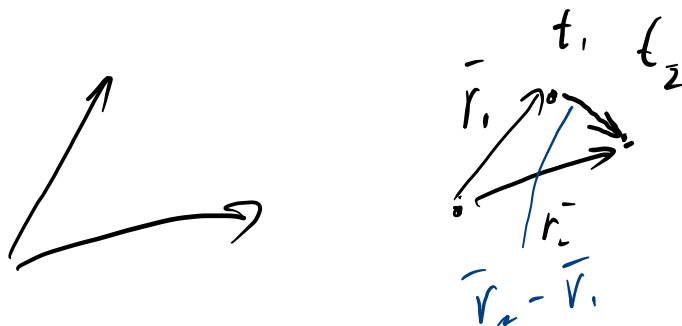


1. Понятие Силы, Импульса и Энергии.
2. Законы сохранения энергии и импульса

Материальная точка (М.Т.). Объект размерами которого пренебрегают. Есть координата и другие характеристики свойственные макрообъектам, но нет размера.



$$\vec{r} = \begin{pmatrix} x \\ y \\ z \end{pmatrix} \quad \vec{v} \quad \boxed{v = \frac{\Delta \vec{r}}{\Delta t}} = v = \dot{\vec{r}} = \frac{dr}{dt}$$

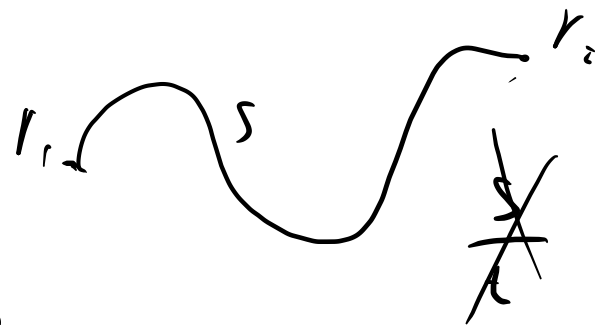
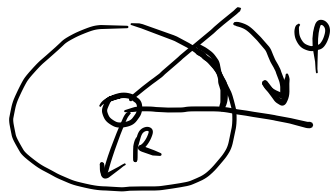


$$\frac{\vec{r}_2 - \vec{r}_1}{t_2 - t_1} = \vec{v}(t)$$

$$\frac{\Delta \vec{v}}{\Delta t} = \vec{a} \quad \vec{a} = \frac{d\vec{v}}{dt} = \dot{\vec{v}} = \left(\frac{d\dot{\vec{r}}}{dt} \right) = \frac{d^2 \vec{r}}{dt^2}$$

$$\frac{d\alpha}{dt} = \ddot{\alpha}$$

$$\bar{v}_2 \frac{\Delta \bar{r}}{\Delta t}$$



$$\rightarrow \frac{\Delta x}{\Delta t} = v(t)$$

$$\Delta t \rightarrow 0$$

(



$$\vec{F} = m \vec{a} = m \frac{\vec{V}_2 - \vec{V}_1}{\Delta t} = \frac{m \vec{V}_2 - m \vec{V}_1}{\Delta t} = \frac{\Delta \vec{p}}{\Delta t}$$

$m_p = 1.67 \times 10^{-27} \text{ kg}$

$$\vec{p} = m \vec{v}$$

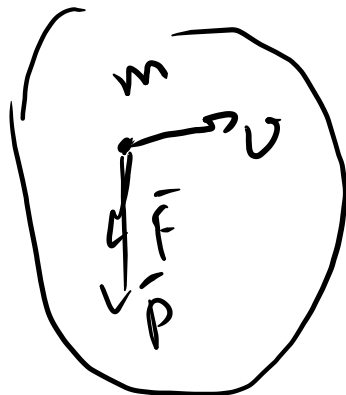
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units)

$$\vec{F} = \frac{d\vec{p}}{dt} = \dot{\vec{p}}$$

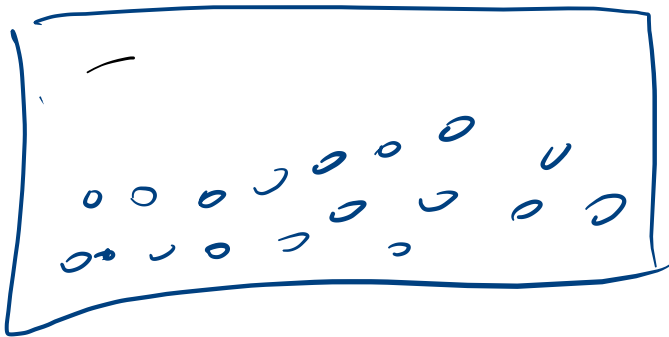
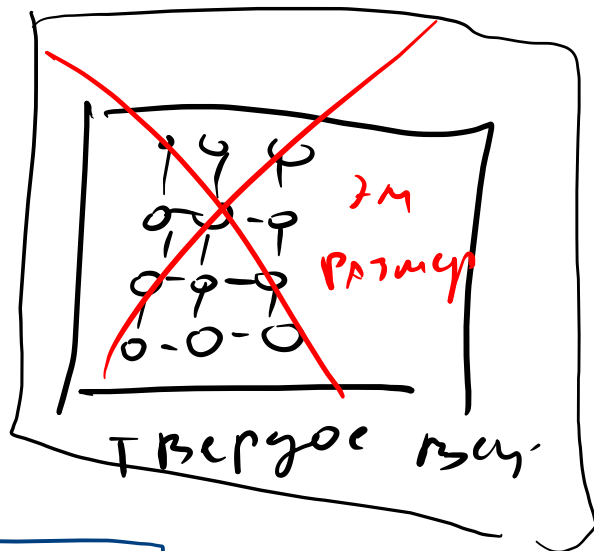
$$\vec{F} dt = d\vec{p}$$

$$\Delta \vec{p} = \int \vec{F} dt$$

МХТ



МОДЕЛИ



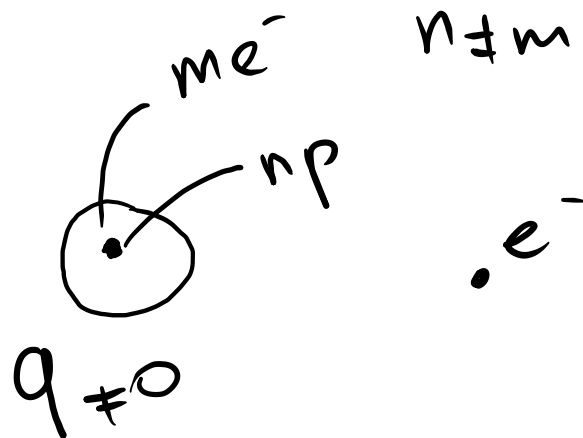
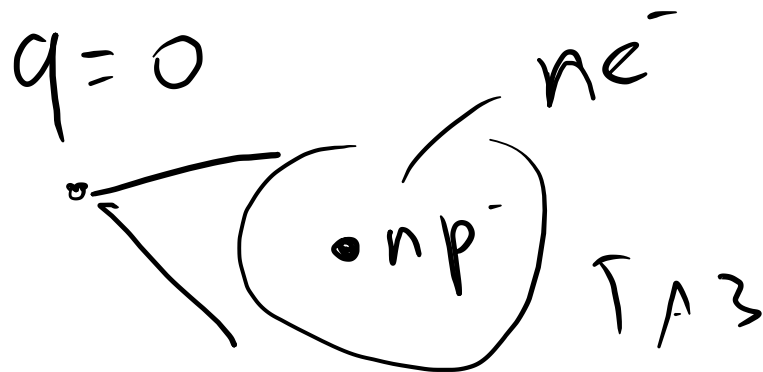
$\Gamma_A \rightarrow$

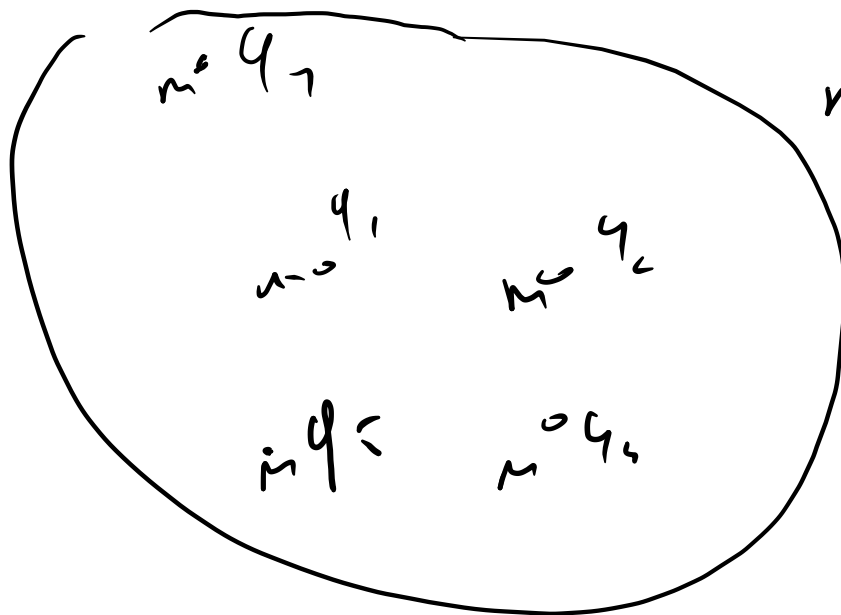
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MKT

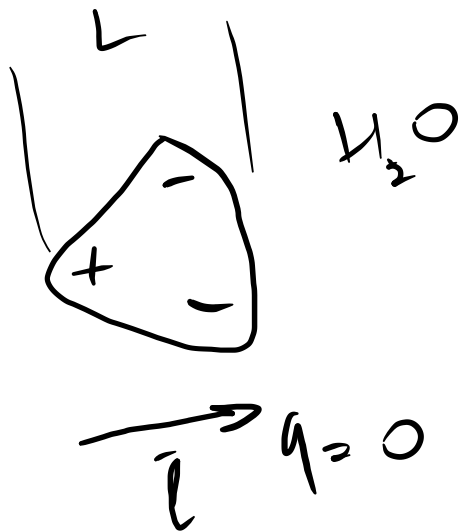
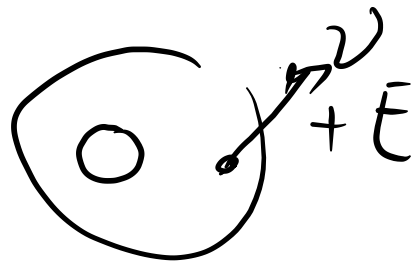
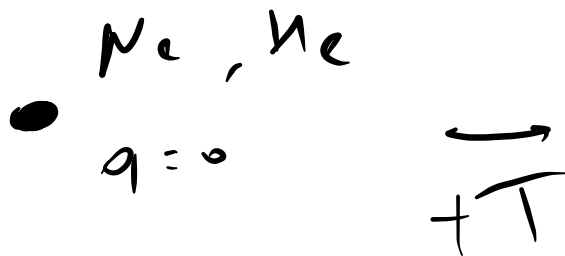
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He





РАЗРА



МИКРО ПАРАМ.

1 МОЛЕКУЛА:

$m, \bar{v}, \bar{p}, \bar{F}, N$

$\{\bar{\sigma}\}$

МАКРО ПАРАМ.

$V, M, \rho = \frac{M}{V}, N$
 T, P

$T(v, n)$

$p(v, \bar{p})$

$\bar{v} = ?$

Квант. Бег-6А.

$$\left\{ \frac{M}{m_0} = N \right\}$$

$$g_{\text{норм}} = 12 = g_{\text{норм}} \pi$$

$$M_{\text{нб}} = 6 \cdot 10^{23} \approx N_A$$

$$6.2214076 \cdot 10^{23}$$

$$D = \frac{N}{N_A}$$

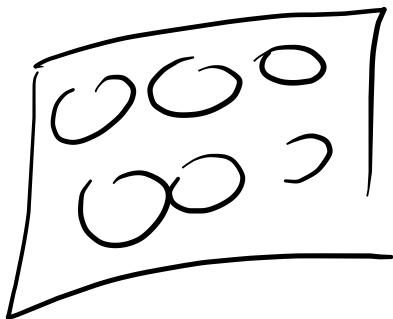
$$\frac{30}{12} = 2,5$$

$$m_o \cdot N_A = M_{\text{mole}}$$

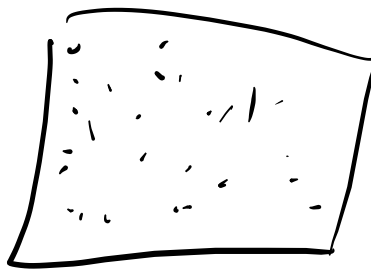
$$\frac{M_{\text{mole}}}{m_o} = N_A$$

$$D = \frac{(N \cdot m_o)}{M_{\text{mole}}} =$$

$$D = \frac{m}{M_r}$$



M



m

$$N_1 \neq \cancel{N_2}$$

Концентрация

$$n = \frac{N}{V}$$

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$$\bar{p}_1 = m_0 \bar{v}$$

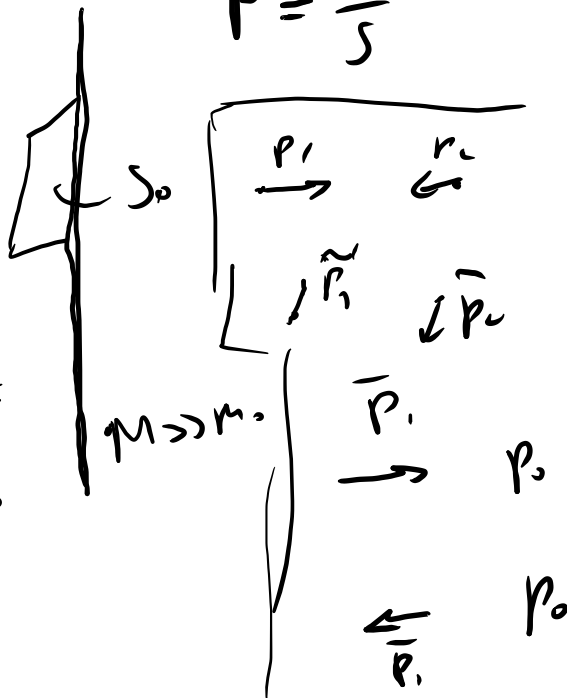


$$\bar{p}_2 = -m_0 \bar{v}$$

$$p_2 - p_1 = -m_0 v - m_0 v = -2m_0 v$$

$$\Delta p_t = 2m_0 v$$

$$P = \frac{F}{S}$$



Абсолютно упругое
столкновение

$$n = \frac{W}{V} \quad P = \frac{F}{S}$$

$$F = \frac{dp}{dt}$$



$$\sum_{i=1}^N m_i = N m_i$$

$$\Delta p_i = -2 m_i v$$

$$\Delta P_x = \sum_{i=1}^N (-2 m_i v) =$$

$$n = \frac{N}{l \cdot S}$$

$$= 2 v N \cdot m_i$$

$$W = n l S$$

$$\Delta P = 2 n l S N m_i$$

$$\Delta p = 2m \cdot n \ell S$$

$$P = \frac{F}{S}$$

$$S = \frac{F}{P}$$

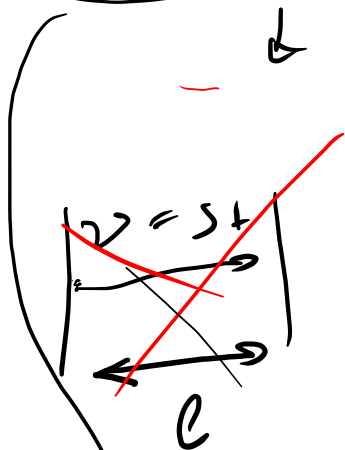
$$\frac{\Delta p}{\Delta t} = 2m \cdot n$$

$$v = \frac{\Delta \ell}{\Delta t}$$

$$F = \frac{\Delta p}{\Delta t}$$

$$\Delta t = \frac{\Delta \ell}{v} = \frac{\Delta p}{F}$$

$$\Delta p = \frac{\Delta \ell}{v} \cdot F$$



$$2m, n k s \underline{v} = \frac{\sigma k}{v} \underline{F}$$

$$2m, n \underline{v}^2 = \frac{F}{S} = P$$

$$2m, n \underline{v}^2 = P$$