

Кинематика	Законы сохранения	Основы МКТ	Электростатика	Индукция	Ядерные реакции.
$v = \frac{S}{t} \dots x = x_0 \pm v \cdot t$ $S = x - x_0 = v \cdot t$ $a = \frac{\Delta v}{t} = \frac{v - v_0}{t}$ $v = \pm v_0 \pm a \cdot t$ $x = x_0 \pm v_0 \cdot t \pm \frac{a \cdot t^2}{2}$ $S = x - x_0 =$ $= v_0 \cdot t + \frac{a \cdot t^2}{2}$ $v^2 - v_0^2 = \pm 2a \cdot S$ $\Delta j = j_2 - j_1$ $w = \frac{\Delta j}{t} = \frac{2p}{T} = 2pn$ $n = \frac{1}{T} \dots S = \Delta j \cdot R$ $v = \frac{S}{t} = \frac{\Delta j \cdot R}{t} = w \cdot R$ $a_y = \frac{v^2}{R} = w^2 \cdot R$	$F \cdot \Delta t = \Delta p$ $A = F \cdot S \cdot \cos \alpha$ $N = \frac{A}{\Delta t} \dots h = \frac{A}{W}$ $W_k = \frac{mv^2}{2} \dots W_p = mgh$	$W_{cp} = \frac{m_0 v_{ck}^2}{2}$ $n = \frac{N}{V} \dots p = \frac{2}{3} n W_{cp} \dots W_{cp} = \frac{3}{2} kT$ $v_{ck} = \sqrt{\frac{3kT}{m_0}} = \sqrt{\frac{3kN_A T}{m}} = \sqrt{\frac{3RT}{m}}$ $p = \frac{nRT}{V} \dots pV = \frac{m}{m} RT$	$F = k \frac{ q_1 q_2 }{r^2}$ $W_p = k \frac{q_1 \cdot q_2}{r} = Fd = qEd$ $j = \frac{W_p}{q} = k \frac{q}{r} = Ed$ $A = -\Delta W_p = q(j_1 - j_2)$ $q = CU$ $C = \frac{ee_0 S}{d}$ $W = \frac{CU^2}{2} = \frac{q^2}{2C} = \frac{qU}{2}$ $W_p = \frac{qj}{2}$	$F_{II} = qvB \sin \alpha$ $F_A = IB \sin \alpha$ $M = I B a \sin \alpha = ISB \sin \alpha$ $\Phi = BS \cos \alpha$ $H = \frac{I}{2pr}$ $e_H = -N \frac{\Delta \Phi}{\Delta t}$ $e_C = -L \frac{\Delta I}{\Delta t}$ $W_M = \frac{LI^2}{2} = \frac{\Phi I}{2} = \frac{\Phi^2}{2L}$	$mn_n r_n = \frac{h}{2p} n$ $n = \frac{E_1 - E_2}{h}$ $n_{\min} = R \left(\frac{1}{n^2} - \frac{1}{m^2} \right)$ $E_{Я} = E_H - E_{CB}$ $\Delta m = m_H - m_{Я} =$ $= (Zm_p + Nm_n) - m_{Я}$ $\Delta E = \Delta mc^2 =$ $= \Delta m \cdot 931,5 (МэВ) =$ $= (m_{до} - m_{после}) \cdot$ $\cdot 931,5 (МэВ)$ $N = N_0 2^{\frac{t}{T_{1/2}}}$
	Механика жидкостей $p = \frac{F}{S}$ $p = rgh$ $\frac{h_1}{h_2} = \frac{r_2}{r_1}$ $F_A = r_{жс} V_{II} g$	Термодинамика $U = \frac{3}{2} \frac{m}{m} RT = \frac{3}{2} pV$ $\Delta U = \frac{3}{2} \frac{m}{m} \cdot R \cdot \Delta T$ $\Delta U = \frac{3}{2} p \Delta V \dots \Delta U = \frac{3}{2} \Delta p V$ $A = p \Delta V \dots Q = \Delta U + A$ $\Delta Q = C_T \Delta T \dots \Delta Q = cm \Delta T$	Постоянный ток $I = \frac{\Delta q}{\Delta t} \dots R = r \frac{l}{S} \dots U = j_1 - j_2$ $I = \frac{U}{R} \dots I = \frac{e}{R+r}$ $A = \Delta q U = IU \Delta t = \frac{U^2}{R} \Delta t = I^2 R \Delta t$ $N = \frac{A}{\Delta t} = IU = \frac{U^2}{R} = I^2 R$ $Q = A = IU \Delta t = \frac{U^2}{R} \Delta t = I^2 R \Delta t$	Квантовая физика. $e = hn = \frac{hc}{l}$ $e = mc^2$ $m = \frac{e}{c^2} = \frac{hn}{c} = \frac{hc}{c^2 l} = \frac{h}{cl}$ $p = mc = \frac{hn}{c} = \frac{h}{l}$ $hn_0 = \frac{hc}{l_0} = A + 0$ $n_0 = \frac{A}{h}$ $l_0 = \frac{hc}{A}$ $hn = A + eU_3$	Основы СТО. $l = l_0 \sqrt{1 - (v/c)^2}$ $t = \frac{t_0}{\sqrt{1 - (v/c)^2}}$ $v = \frac{v_1 + v_2}{1 + v_1 v_2 / c}$ $\mathbf{r} \cdot \mathbf{p} = \frac{m_0 v \mathbf{r}}{\sqrt{1 - (v/c)^2}}$ $m = \frac{m_0}{\sqrt{1 - (v/c)^2}}$ $\Delta E = \Delta mc^2$ $E = mc^2$ $W_k = m_0 c^2 \left(\frac{1}{\sqrt{1 - (v/c)^2}} - 1 \right)$
Динамика $\mathbf{r} = \frac{\mathbf{F}}{m}$ $\mathbf{F} \cdot \Delta t = \Delta(m \cdot \mathbf{v})$ $F_{тяж} = G \frac{m_1 \cdot m_2}{r^2}$ $F_{тяжс} = mg$ $v_{первая_космическая} =$ $= \sqrt{\frac{G \cdot m_2}{R_3}} \approx 7,9 \text{ км/с}$ $F_{тр} = m \cdot N$ $\mathbf{F}_{упр} = -k \Delta \mathbf{x}$ $M = F \cdot d$	Колебания и волны $n = 1/T \dots F_{упр} = ma$ $x = X_m \sin(\omega t + j_0)$ $v = x' = X_m \omega \cos(\omega t + j_0)$ $a = x'' = -X_m \omega^2 \sin(\omega t + j_0)$ $w = \sqrt{\frac{k}{m}} = \sqrt{\frac{g}{l}}$ $T = \frac{2p}{w} = 2p \sqrt{\frac{m}{k}} = 2p \sqrt{\frac{l}{g}}$ $W_k = \frac{mX_m^2 \omega^2}{2} \cos^2(\omega t + j_0)$ $W_p = \frac{kX_m^2}{2} \sin^2(\omega t + j_0) =$ $= \frac{mX_m^2 \omega^2}{2} \sin^2(\omega t + j_0)$ $W = \frac{mX_m^2 \omega^2}{2} \dots l = n_0 T$ $x = X_m \sin(\omega t - kl)$	Оптика $n = \frac{c}{n_c} \dots \frac{l_1}{n_1} = \frac{l_2}{n_2}$ $n_1 l_1 = n_2 l_2$ $n_1 \sin \alpha = n_2 \sin \beta$ $\alpha_{кр} = \arcsin \frac{n_2}{n_1}$ $D = \frac{1}{F} = \frac{1}{d} + \frac{1}{f}$ $\Gamma = \frac{H'}{H} = \frac{f}{d}$ $\Delta \Phi = 2p \frac{\Delta l}{l}$ $\Delta l = 2k (l/2)$ $\Delta l = (2k + 1)(l/2)$ $d \sin j_k = \pm k l$ $d = \frac{N}{l}$	Электромагнитные к-я $q = q_m \cos(\omega t + j_0)$ $I = -q_m \omega \sin(\omega t + j_0)$ $W_3 = \frac{q^2}{2C} \dots W_M = \frac{LI^2}{2}$ $e = e_m \cos \omega t$ $I = I_m \cos \omega t$ $U_R = IR = I_m \cos \omega t$ $U_L = I_m L \omega \cos(\omega t + p/2)$ $q = \frac{I_m}{\omega} \cos(\omega t - p/2)$ $U_C = I_m \frac{1}{C \omega} \cos(\omega t - p/2)$ $w = \frac{1}{\sqrt{LC}}$ $T = \frac{2p}{w} = 2p \sqrt{LC}$		