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MUHAMMAD AL-XORAZMIY NOMIDAGI AXBOROT TEXNOLOGIYALARIGA IXTISOSLASHTIRILGAN MAKTAB

Ibrohim Fayziyev

Fizika 9-sinf

Mavzu: Og`irlik kuchi tasirida harakat, gorizontal otilgan jism.

Mavzularning to`liq bayonini va mavzuga doir masala yechish namunalariniYou Tube dagi* ***IT Fizika*** *kanalida ko`rishingiz mumkin.

Toshkent 2021-yil

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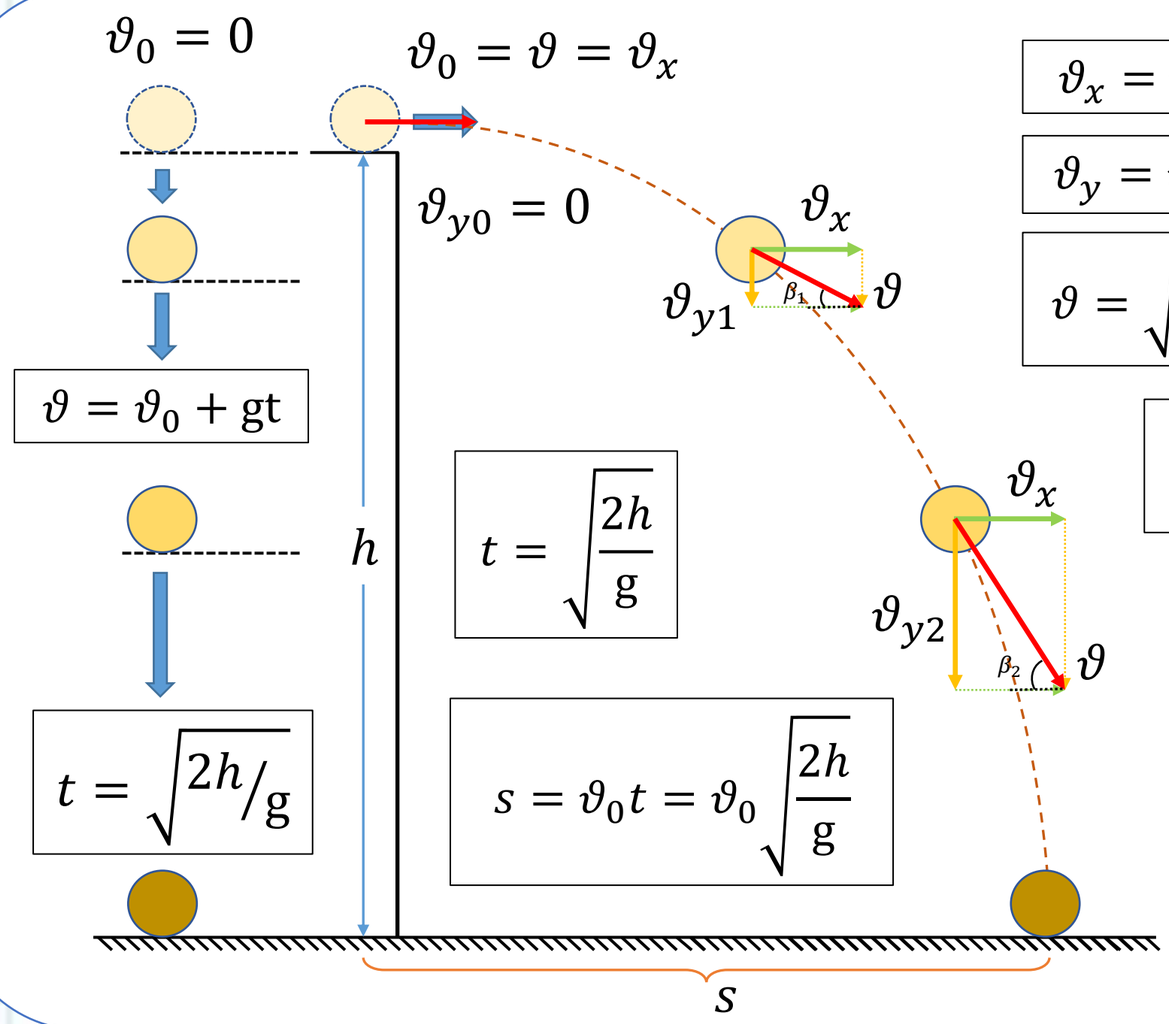
Og`irlik kuchi ta'sirida harakat o`rganilayotganda soddalashtrish uchun havoning qarshlik kuchi etiborga olinmaydi.

$\boldsymbol{t}$ – tushish vaqti
$\boldsymbol{h}$ – tushish balandligi
$\boldsymbol{s}$ –uchish uzoqligi
$\boldsymbol{\beta}$ – tezlik vektorining gorizontal tekslik bilan hosil qilgan burchagi



$$\vartheta_x = \vartheta_0 = const$$

$$\vartheta_y = \vartheta_{y0} + gt$$

$$\vartheta = \sqrt{\vartheta_x^2 + \vartheta_y^2}$$

$$\vartheta = \sqrt{\vartheta_0^2 + g^2 t^2}$$

$$tg\beta_1 = \frac{\vartheta_{y1}}{\vartheta_x}$$

$$tg\beta_2 = \frac{\vartheta_{y2}}{\vartheta_x}$$

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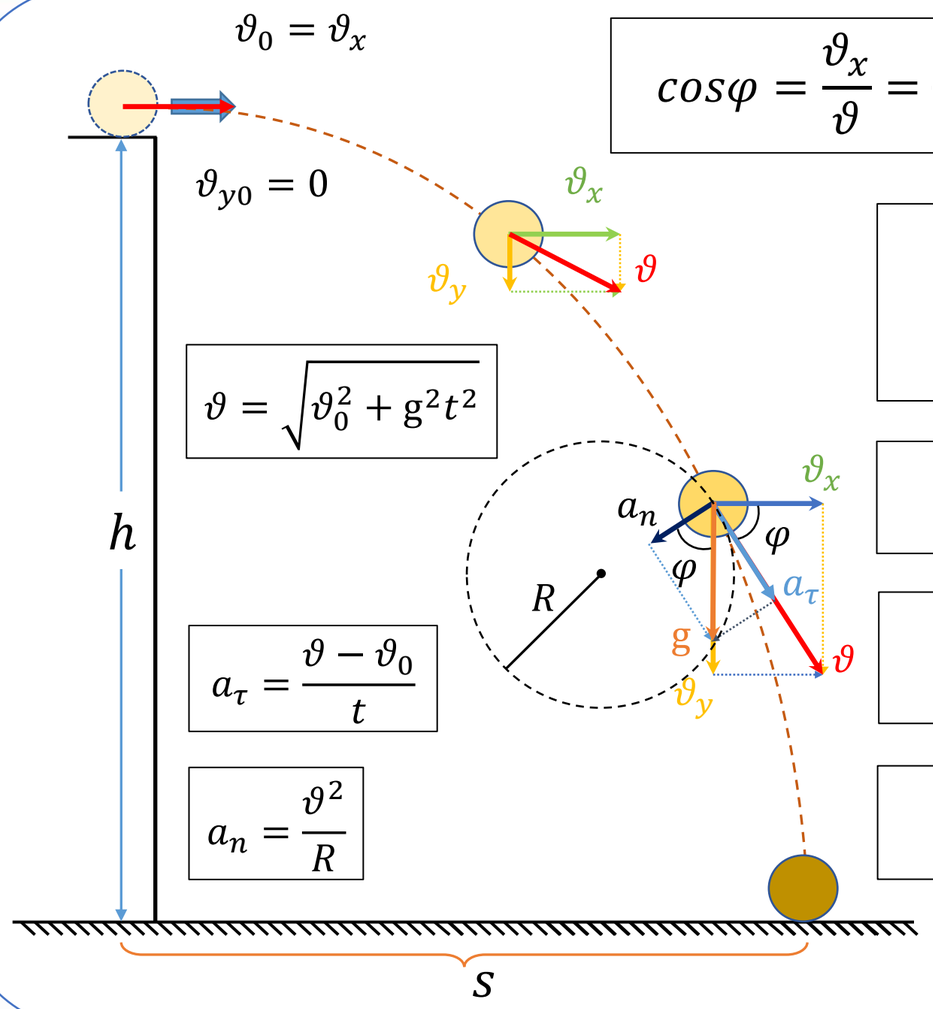
ϑ – oniy tezlik
ϑ_x – tezlikning gorizontal tashkil etuvchsi
ϑ_y – tezlikning vertikal tashkil etuvchsi
a_n –normal tezlanish (markazga intilma tezlanish)
a_τ –tangensial tezlanish
R –trayektoriyaning ma’lum nuqtadagi egrlik radyusi



$$cos\varphi = \frac{\vartheta_x}{\vartheta} = \frac{a_n}{g} \Rightarrow a_n = \frac{g\vartheta_x}{\vartheta}$$

$$a_n = \frac{g\vartheta_0}{\sqrt{\vartheta_0^2 + g^2t^2}}$$

$$\vartheta = \sqrt{\vartheta_0^2 + g^2t^2}$$

$$a_n = \frac{\vartheta^2}{R} = \frac{g\vartheta_0}{\vartheta}$$

$$a_\tau = \frac{\vartheta - \vartheta_0}{t}$$

$$R = \frac{\vartheta^3}{g\vartheta_0} = \frac{(\vartheta_0^2 + g^2t^2)^{3/2}}{g\vartheta_0}$$

$$a_n = \frac{\vartheta^2}{R}$$

$$a = \sqrt{a_n^2 + a_\tau^2}$$

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β – tezlik vektorining gorizontal tekslik bilan hosil qilgan burchagi
t_k –ko`tarilish vaqti
t_u –uchish vaqti
h_{max} –maksimal ko`tarilish balandligi
s –uchish uzoqligi

$$\vartheta_x = \vartheta_0 cos\alpha$$

$$\vartheta_y = \vartheta_0 sin\alpha - gt$$

$$tg\beta = \frac{\vartheta_y}{\vartheta_x} = \frac{\pm\vartheta_0 sin\alpha - gt}{\vartheta_0 cos\alpha}$$

$$\vartheta = \sqrt{\vartheta_x^2 + \vartheta_y^2}$$

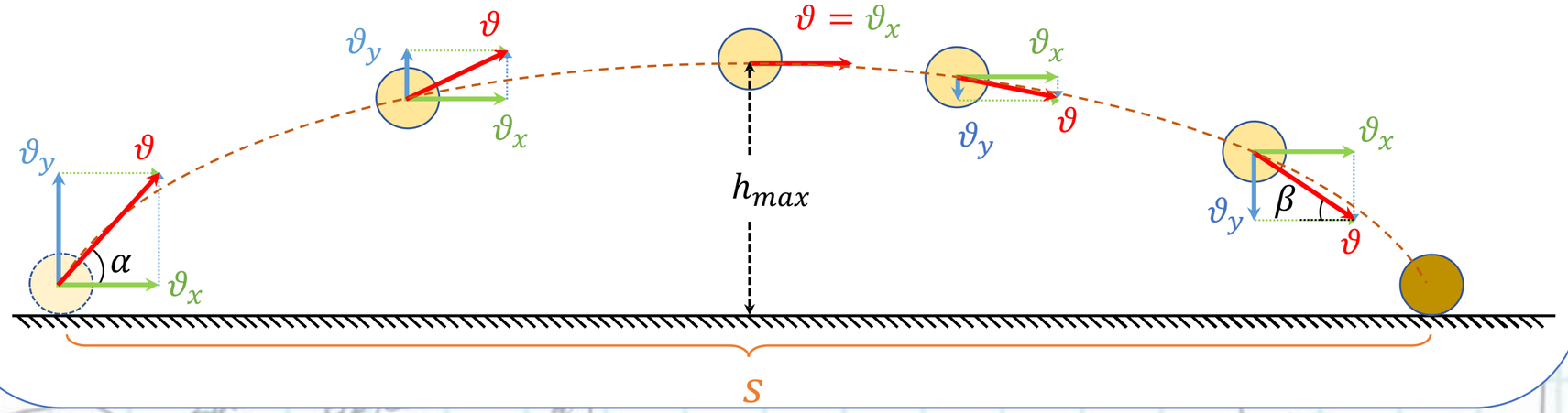
$$t_k = \frac{\vartheta_0 sin\alpha}{g}$$

$$h_{max} = \frac{\vartheta_0^2 sin^2\alpha}{2g}$$

$$\vartheta = \sqrt{\vartheta_0^2 - 2\vartheta_0 gtsin\alpha + g^2t^2}$$

$$t_u = \frac{2\vartheta_0 sin\alpha}{g}$$

$$s = \frac{\vartheta_0^2 sin2\alpha}{g}$$



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$$a_n = \frac{g\vartheta_0 cos\alpha}{\sqrt{\vartheta_0^2 - 2\vartheta_0 gtsin\alpha + g^2t^2}}$$

$$a_n = \frac{\vartheta^2}{R} = \frac{g\vartheta_0}{\vartheta}$$

$$a = \sqrt{a_n^2 + a_\tau^2}$$

$$R = \frac{\vartheta^3}{g\vartheta_0} = \frac{(\vartheta_0^2 - 2\vartheta_0 gtsin\alpha + g^2t^2)^{3/2}}{g\vartheta_0}$$