



$OT \perp O_1$ - крайно състоящие на прихващане

Q - проекция на O_1 в xz

$$OQ_1 = \sqrt{x^2 + z^2}$$

$$O_1Q = y$$

$$OO_1 = \sqrt{x^2 + z^2 + y^2} = \sqrt{x^2 + y^2 + z^2}$$

α - страна на хващане

$$\angle \alpha = \angle O_1OQ + \angle TOO_1$$

$$\angle O_1OQ = \psi$$

$$\tan \psi = \frac{OQ_1}{OQ} = \frac{y}{\sqrt{x^2 + z^2}}$$

$$\psi = \arctan\left(\frac{y}{\sqrt{x^2 + z^2}}\right)$$

$$\angle TOO_1 = \varphi$$

$$\cos \varphi = \frac{OT_1}{OT} = \frac{\sqrt{x^2 + y^2 + z^2}}{2 \cdot a}$$

$$\varphi = \arccos\left(\frac{\sqrt{x^2 + y^2 + z^2}}{2a}\right)$$

$$\angle \beta = 180^\circ - 2\varphi$$

$$\angle \gamma = \angle UOQ$$

$$\cos \gamma = \frac{OQ}{OQ_1}$$

$$\cos(180^\circ - \gamma) = -\cos \gamma = \frac{z}{x} = \frac{QR}{OR}$$

$$\angle \gamma = \arccos\left(\frac{z}{x}\right)$$

chaos

$$\angle \alpha = \psi + \varphi$$

Create your world.