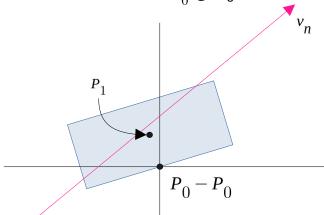


## "True" view

- source @ origin
- center of reflection @  $P_0$  (vb)
- center of object @  $P_0 + P_1$
- position of neutron =  $P_n$
- velocity of neutron =  $v_n$

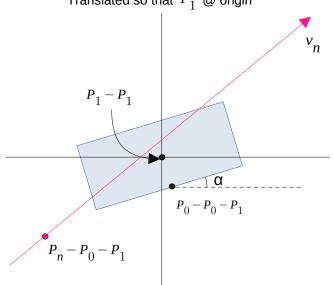
Translated so that  $\,P_0\,$  @ origin



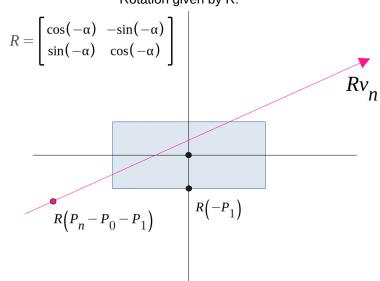
<sup>P<sub>n</sub>-P<sub>0</sub></sup> "Input" view

-define parameters in .instr file with coords given that  $P_0 = (0,0,0)$ 

Translated so that  $P_1$  @ origin



Rotation given by R:



## "Function" view

- McStas library function, box\_intersect() takes params

&t0, &t1 - [output]: times of intersection

xp, yp, zp – [input] : coords for neutron in relation to box centered at origin

vxp, vyp, vzp – [input] : velocity vector for neutron in relation to box centered at origin

**xw, yh, zt** – [input] : box width, height, and thickness

- box\_intersect() function views box as shown above(^) translation and rotation steps operating on  $P_n$  and  $v_n$  were necessary to achieve correct intersection times for rotated and translated box