

ZERO ROBOTICS

SPHERES CHALLENGE 2010

Pointing Tutorial



- In order for the SPHERES satellite to execute certain tasks within the game, the SPHERES satellite has to point to an object or another SPHERES satellite. However, the SPHERES satellite has to point towards the target accurately, otherwise the desired output will not be executed.
- The limit is $\pi/15$ radians between the desired pointing vector and the actual pointing vector. As long as the angle between these two vectors is less than or equal to $\pi/15$, proper pointing is achieved.
- Think about how you can use the function ***float mathVecInner(float *a, float *b, int n)*** for this purpose
- To convert between degrees and radians, multiply the value in degrees by $\pi/180$

- Pointing is achieved by setting `api.setAttitudeTarget()` to a specific attitude vector. You may check your SPHERES satellite's current pointing vector by using `myState[6]`, `myState[7]`, and `myState[8]`, variables that can be called in the IDE to check the state of your SPHERES satellite's attitude.

