MITSUBA3 COORDINATE SYSTEM  
  
*Central camera:*

Origin = [0, 0, -3.5]

Target = [0,0,0]  
  
The camera to world transformation is created by calling Mitsuba’s lootAt transform using the origin and target mentioned above and setting as up axis the positive y:

Camera to world transformation = look\_at(origin = origin, target = target, up=[0,1,0]) =

Adding a sphere in the scene with a uniform scaling of 2.5 to determine the orientation of the axes in Mitsuba3 coordinate system:

|  |  |
| --- | --- |
| ***Sphere to world transformation*** | ***Scene*** |
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|  |  |

Right-handed coordinate system:

X+ left

Y+ up

Z+ away from the viewer

Second camera:

We rotate the above camera’s origin by 5 degrees in the y axis using the following rotation matrix:  
  
θ = np.radians(5)

R =

After the rotation, the second camera’s origin will be:  
  
Origin = [-0.3050451, 0, -3.48668144]

Target = [0,0,0]  
  
The camera to world transformation is created by calling Mitsuba’s lootAt transform using the origin and target mentioned above and setting as up axis the positive y (similar to the central camera):

Camera to world transformation = look\_at(origin = origin, target = target, up=[0,1,0]) =

Finally, to compute the transformation T from the central camera C0 to the second camera C1: