Creating a camera and Gazebo plugin

Tuesday, September 14, 2021   5:55 PM

(handwritten annotations: z-axis, R, M, box, P, C)

```xml
<!-- camera -->
<gazebo reference="camera_link">
  <sensor type="camera" name="camera1">
    <update_rate>30.0</update_rate>
    <camera name="head">
      <horizontal_fov>1.3962634</horizontal_fov>
      <image>
        <width>800</width>
        <height>800</height>
        <format>R8G8B8</format>
      </image>
      <clip>
        <near>0.02</near>
        <far>300</far>
      </clip>
      <noise>
        <type>gaussian</type>
        <!-- Noise is sampled independently per pixel on each frame.
             That pixel's noise value is added to each of its color
             channels, which at that point lie in the range [0,1]. -->
        <mean>0.0</mean>
        <stddev>0.007</stddev>
      </noise>
    </camera>
    <plugin name="camera_controller" filename="libgazebo_ros_camera.so">
      <alwaysOn>true</alwaysOn>
      <updateRate>0.0</updateRate>
      <cameraName>rrbot/camera1</cameraName>
      <imageTopicName>image_raw</imageTopicName>
      <cameraInfoTopicName>camera_info</cameraInfoTopicName>
      <frameName>camera_link</frameName>
      <hackBaseline>0.07</hackBaseline>
      <distortionK1>0.0</distortionK1>
      <distortionK2>0.0</distortionK2>
      <distortionK3>0.0</distortionK3>
```
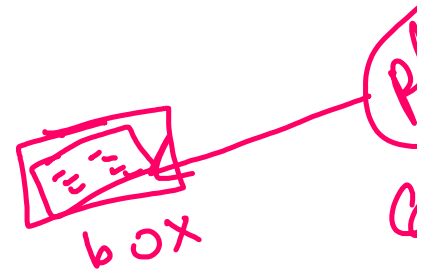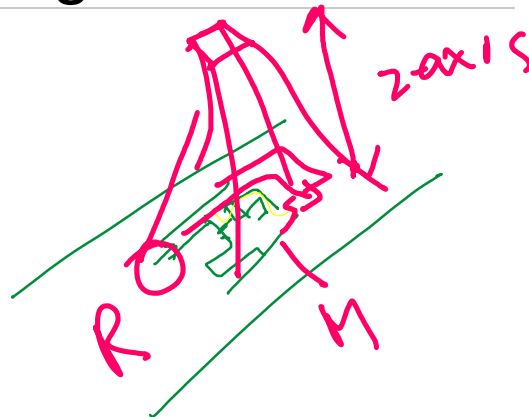
(handwritten annotations: link, 30fps, 860×800)

```
        <distortionT1>0.0</distortionT1>
        <distortionT2>0.0</distortionT2>
    </plugin>
  </sensor>
</gazebo>
```

Camera Communication