# Robot Operating System – modelowanie robotów (URDF)

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### Uruchomienie ROSa



ROS Master:

\$ roscore





### Sterowanie kołami



\$ roslaunch urdf\_sim\_tutorial 13-diffdrive.launch







```
<!- - camera - ->
<gazebo reference="box">
<sensor type="camera" name="camera1">
<update_rate>30.0</update_rate>
<camera name="head">
<horizontal fov>1.3962634</horizontal fov>
<image>
<width>640</width>
<height>480</height>
<format>R8G8B8</format>
</image>
```





```
<clip>
<near>0.02</near>
<far>300</far>
</clip>
<noise>
<type>gaussian</type>
<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>





#### Modyfikujemy plik 13-diffdrive.urdf.xacro z pakietu urdf\_sim\_tutorial

<distortionT1>0.0</distortionT1>

<distortionT2>0.0</distortionT2>

</plugin>

</sensor>

</gazebo>







```
<!-- hokuyo - ->
<gazebo reference="box">
<sensor type="ray" name="head_hokuyo_sensor">
<pose>0 0 0 0 0 0 0</pose>
<visualize>false</visualize>
<update_rate>40</update_rate>
<ray>
```







```
<scan>
<horizontal>
<samples>720</samples>
<resolution>1</resolution>
<min_angle>-1.570796</min_angle>
<max_angle>1.570796</max_angle>
</horizontal>
</scan>
```







#### Modyfikujemy plik 13-diffdrive.urdf.xacro z pakietu urdf\_sim\_tutorial

<range>

<min>0.10</min>

<max>30.0</max>

<resolution>0.01</resolution>

</range>



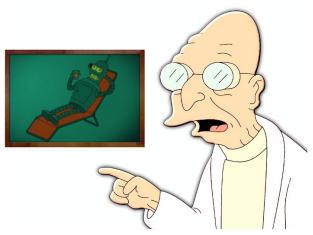




```
<noise>
<type>gaussian</type>
<mean>0.0</mean>
<stddev>0.01</stddev>
</noise>
</ray>
<plugin name="gazebo ros head hokuyo controller" filename="libgazebo ros laser.so">
<topicName>/rrbot/laser/scan</topicName>
<frameName>box</frameName>
</plugin>
</sensor>
```



# Dziękuję za uwagę



lrm.put.poznan.pl www.monoscience.com



