

Robot Operating System – modelowanie robotów (URDF)

Dominik Belter¹

Instytut Automatyki, Robotyki i Inżynierii Informatycznej
Politechnika Poznańska, Poznań, Poland

Poznań 14.11.2017





- ROS Master:

```
$ roscore
```





```
$ sudo apt-get install ros-kinetic-urdf-tutorial ros-kinetic-urdf-sim-tutorial
```





```
$ cd ~/catkin_ws/src  
$ git clone https://github.com/ros/urdf_tutorial  
$ cd urdf_tutorial/urdf_tutorial  
$ roslaunch urdf_tutorial display.launch model:=urdf/05-visual.urdf
```





```
$ roslaunch urdf_tutorial display.launch model:=urdf/06-flexible.urdf
```



Robot w Gazebo



```
$ cd ../../urdf_tutorial/urdf_sim_tutorial/  
$ roslaunch urdf_sim_tutorial gazebo.launch
```





```
$ roslaunch urdf_sim_tutorial 09-joints.launch
```

zobacz: joints.yaml





```
$ roslaunch urdf_sim_tutorial 09-joints.launch model:=urdf/10-firsttransmission.urdf.xacro
```

zobacz: `urdf/10-firsttransmission.urdf.xacro` i `"rostopic echo /joint_states"`





```
$ roslaunch urdf_sim_tutorial 10-head.launch
```

```
$ rostopic pub /r2d2_head_controller/command std_msgs/Float64 "data: -0.707"
```





```
$ roslaunch urdf_sim_tutorial 12-gripper.launch
```

```
$ rostopic pub /r2d2_head_controller/command std_msgs/Float64 "data: -0.707"
```



Złącza - otwieranie chwytaka



<http://wiki.ros.org/urdf/Tutorials/Using%20a%20URDF%20in%20Gazebo>

```
rostopic pub /r2d2_gripper_controller/command std_msgs/Float64MultiArray "layout:
```

```
dim:
```

```
- label: "
```

```
size: 3
```

```
stride: 1
```

```
data_offset: 0
```

```
data: [0, 0.5, 0.5]"
```



Złącza - zamykanie chwytaka



<http://wiki.ros.org/urdf/Tutorials/Using%20a%20URDF%20in%20Gazebo>

```
rostopic pub /r2d2_gripper_controller/command std_msgs/Float64MultiArray "layout:
```

```
dim:
```

```
- label: "
```

```
size: 3
```

```
stride: 1
```

```
data_offset: 0
```

```
data: [-0.4, 0, 0]"
```



Sterowanie kołami



```
$ roslaunch urdf_simulator13 --diffdrive.launch
```



Dziękuję za uwagę



irm.put.poznan.pl
www.monoscience.com

