1 Results

2 To do‘s

- Make the Husky follow first straight path, using the a simple navigation goal **solved**.
- solve the roslaunch error - to do it tonight 27.09 - **solved**
- Get the same result from the simple-navigation-goal with the **global planner** - implies to create a .txt file in Matlab. Test the simple ”go straight one meter” file
- for today **4 Ott** learn the Navig Stack book tutorial

3 Achieved

- Executable of the simple-navigation-goal found under /simon-ws/devel/lib/simple-navigation-goals. The executable is in place, running the node with **rosrun simple-navigation-goals simple-navigation-goals** runs the executable. The robot moves one meter forward.
- Checking for the odometry on the topic **/odometry/filtered** shows up the results in Figure 1, this shows a **20 percent less** in the value of the odometry filtered (Ekf fusion of Encoders and IMU sensors), the same holds for the **pure odometry** of the topic **husky-velocity-controller/odom**.
- Checking for the **amcl-pose** topic, this shows even a lower value, see Figure

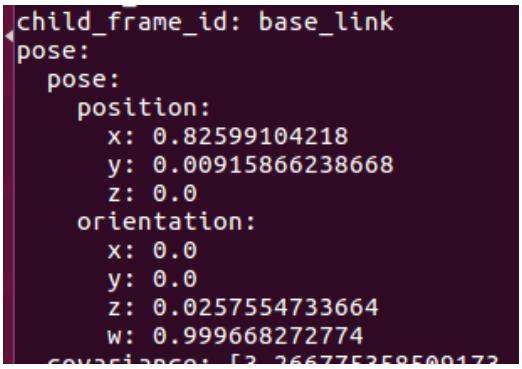

Figure 1: Odometry filtered sending the base-link a 1 meter forward goal

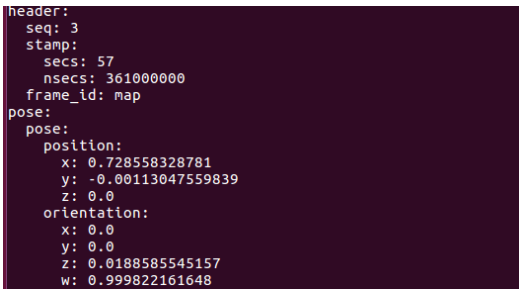

Figure 2: amcl-pose result

4 Comments on Sriram meeting - planner and navigation

- According to the transformation tree from parents to child we find **map**, **odom**, **base**, **lasercan**. When constructing the map using Gmapping, the reference 0 0 0 is where the mapping process starts, then this is reflected into the Amcl node. So the map frame is 0 0 0 if the Gmapping has started in 0 for each coordinate. So the map frame is **fixed and global** wrt the map while the odom is **movable and local** wrt to the base link.

5 What are msgs

Nodes communicate with each other by publishing messages to topics. A message is a simple data structure, comprising typed fields. Standard primitive types (integer, floating point, boolean, etc.). There are specific files of a messsage called **msg**, simple text files specifying the data structure of the message. Example: std_msgs/msg/String.msg the message has the type std_msg/string. The ROS builds the msgs from the msgs file into **source** code. New data types .msgs can be created in my own package, under the folder **msg**. When the message is included Ex: move_base_msgs/MoveBaseAction.h, the header file is used to add the timestamp, frame, and so on. This allows messages to be numbered so that we can know who is sending the message. By adding **rosbuild_add_executable**, this line will create an execut in the **bin** folder !

6 Understanding the transforms - base_link, odom, map

Reading this link http://www.ros.org/reps/rep-0105.html-coordinate-frames, the error of Figure 1 and 2 are due to lack of parameters change in the amcl !!

7 Further notes on the Navigation Stack following ROS book

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