Ros bag files playback :

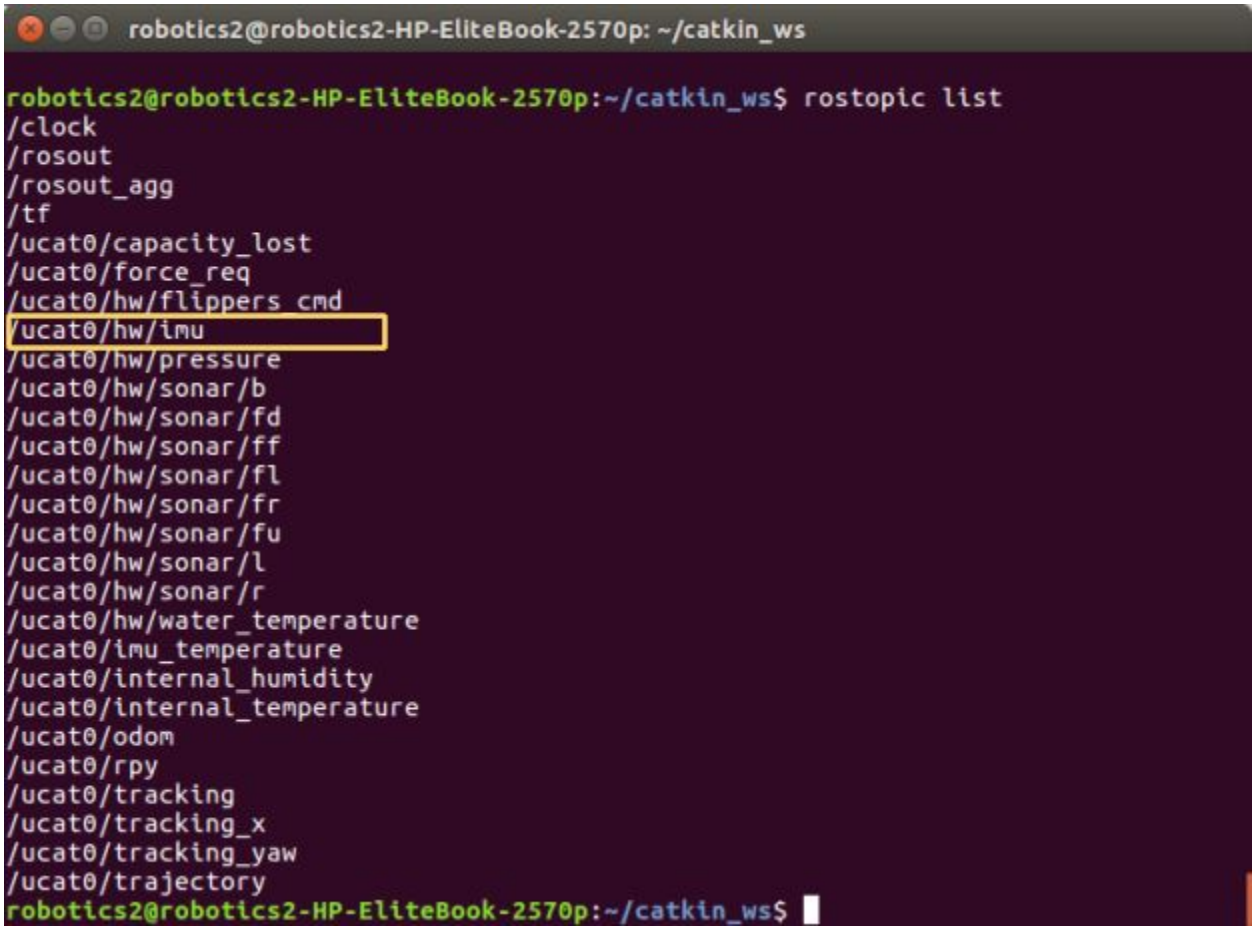
1. Install the rviz_imu_plugin:

   Steps for installation are given here :
   https://github.com/ccny-ros-pkg/imu_tools
2. Download the Ros bag files and the launch file required for the project from Onedrive - https://livettu-my.sharepoint.com/:f:/g/personal/sapnag_ttu_ee/Engdxo57utdIpBOAWhUivTcBcS6KSfBVMFWddMFbnG7IjA?e=NJg2I8
3. Save the rosbag files in your computer and type the instruction on the command line

   `rosbag play _File_name.bag`
4. Open up a new Terminal and type

   `rostopic list`

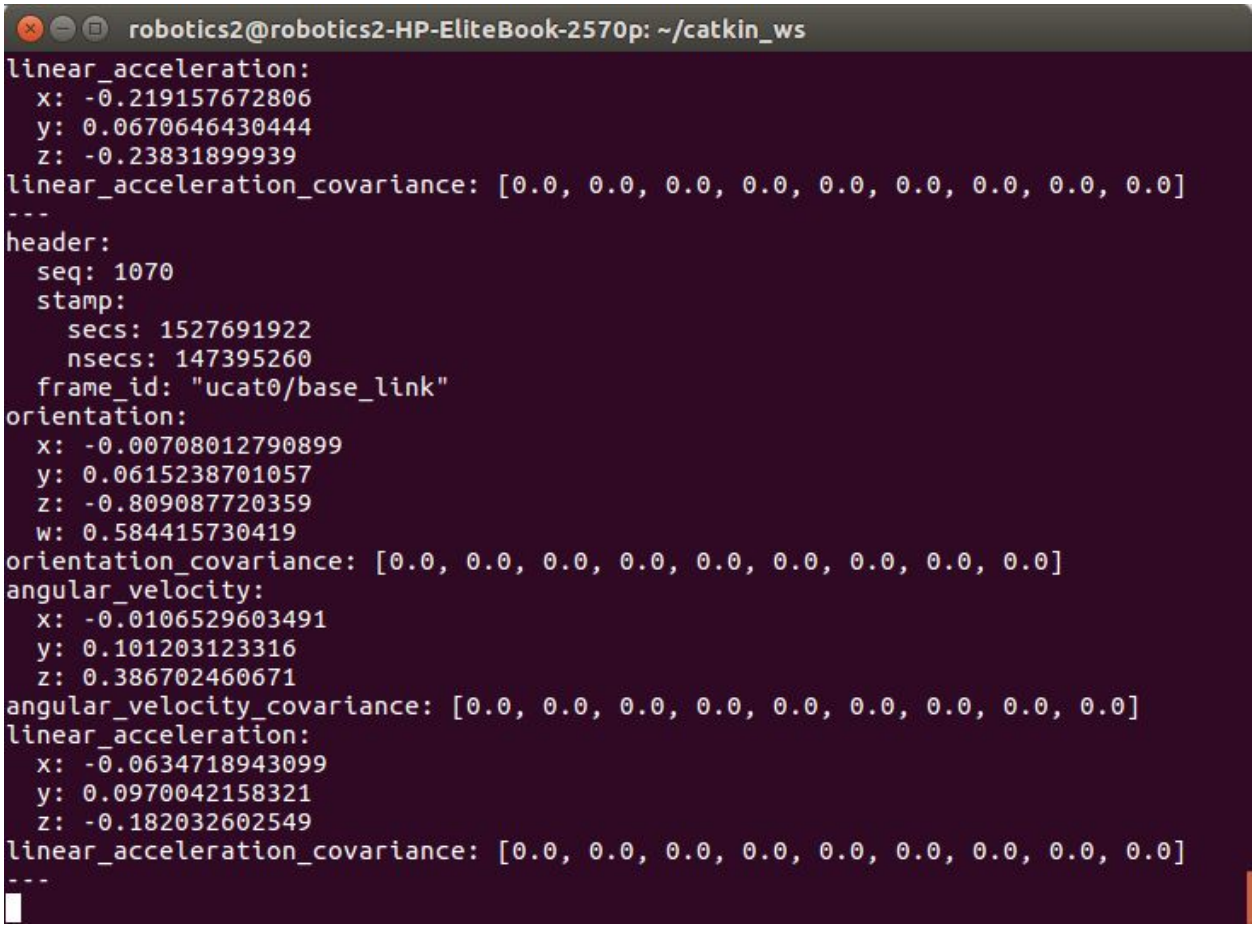
   You will be able to see the list of topics saved in the ros bag file



The one which we will like to use is the "/ucat0/hw/imu"

Hence , we will type in our command line "rostopic echo /ucat0/hw/imu"

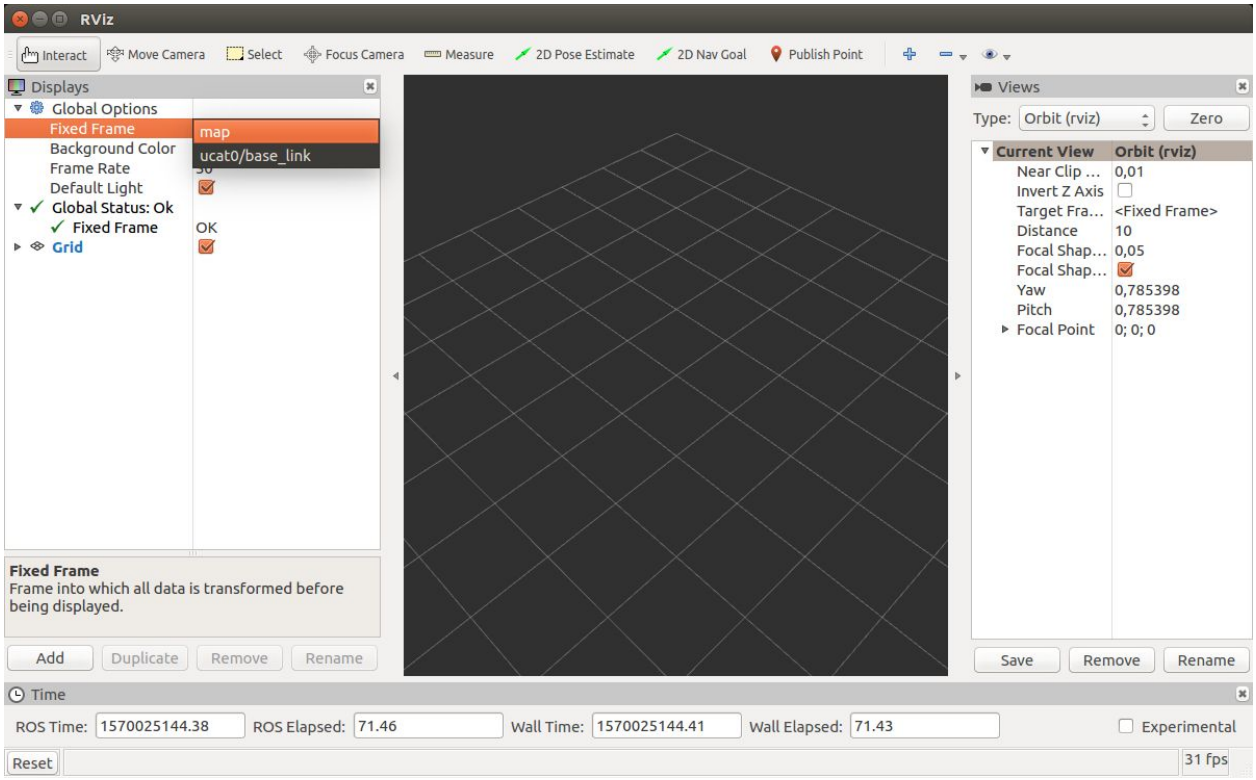
You would be able to see all the Ucat robot's imu data played back ....



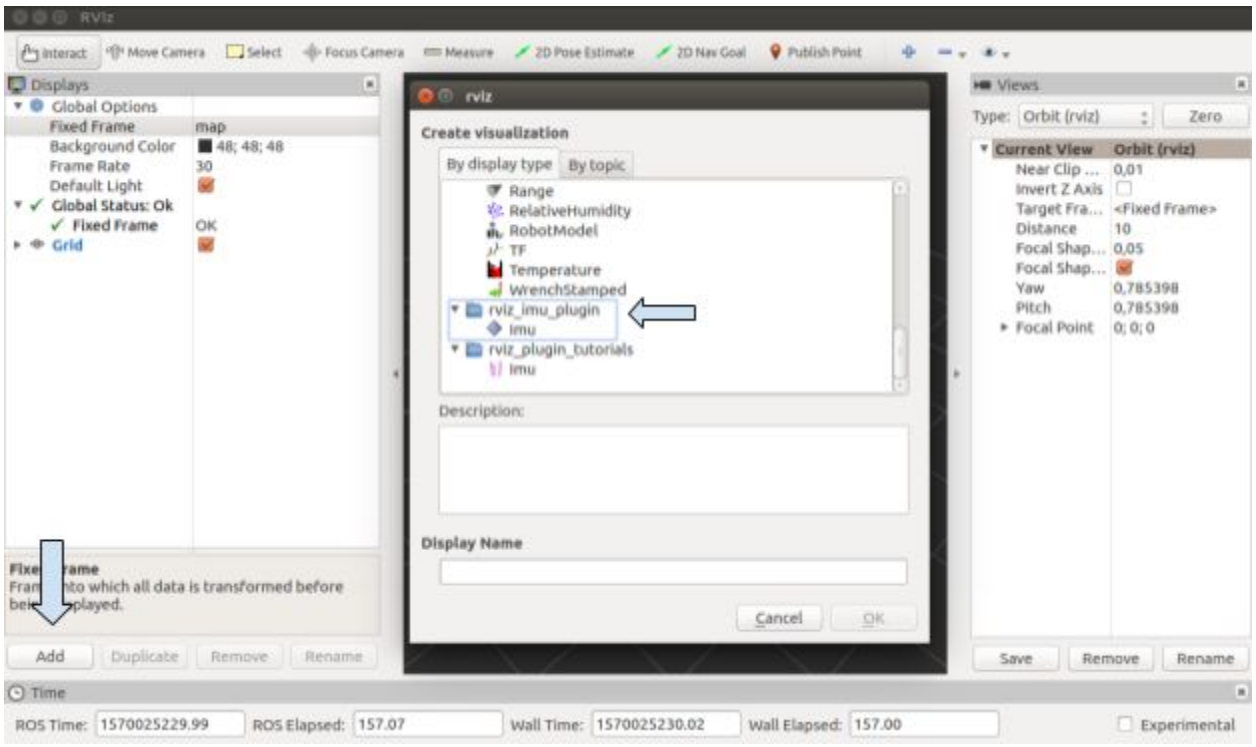
5. While the data from the rosbag file is being played , launch the “test.launch file” , by using the instruction “roslaunch test.launch”. This instruction will launch the “rviz” simulator

```
roslaunch <package_name>  test_playback.launch
```

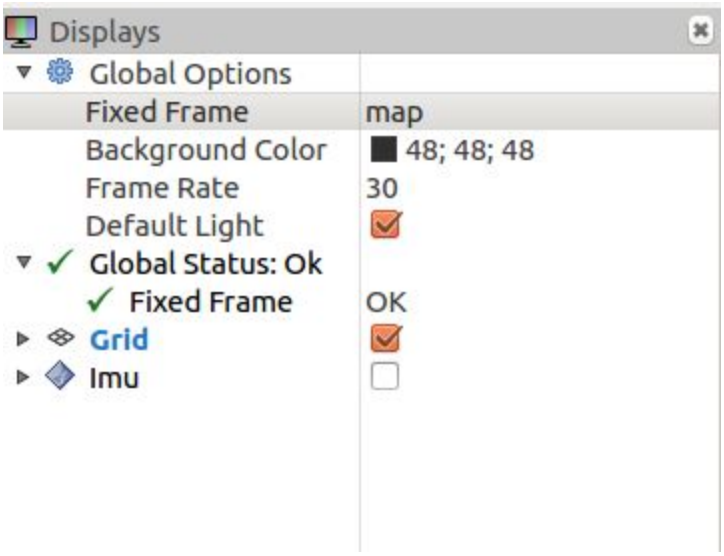
6. Once in the rviz environment, select the bar next to “Fixed frame” you will see a drop down menu where you would select “ucat0/base_link”



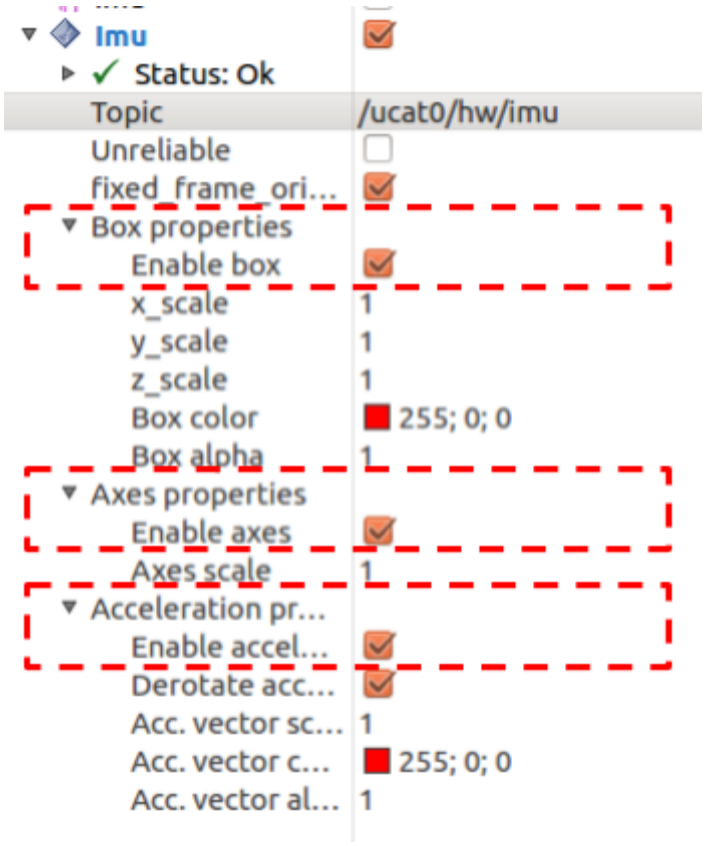
7. Click on the add button , If your “rviz_imu_plugin” installation was successful you will get to see the option listed in the “Create Visualization -> By display types”



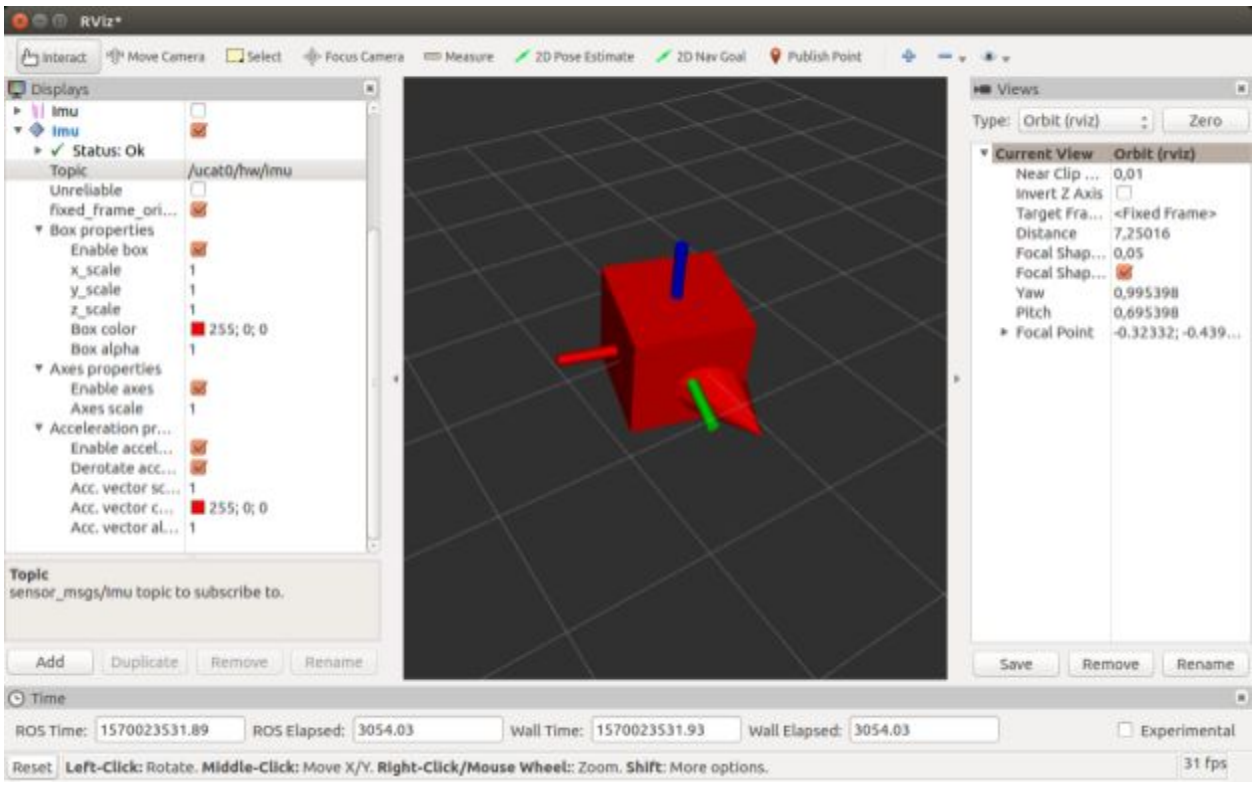
8. You can able to see the option of the imu_plugin now listed in your list of display:



9. Now click to the bar adjacent to the Topic and type down the following topic name “/ucat0/hw/imu” and check the boxes adjacent to the “Box properties, Axes properties, Acceleration Properties”



10. Thats it , You can able to see the box and Axes on your Rviz



You can adjust the scale of your boxes and axes to get a better view of all the components