

Astra SDK:

<https://orbbec3d.com/develop/>

Installed:

1. Astra_SDK

Basic run test:

```
~/Desktop/AstraSDK-v2.1.3-Ubuntu-x86_64/AstraSDK-v2.1.3-94bca0f52e-20210608T062039Z-Ubuntu18.04-x86_64/bin$ ./DepthReaderPoll
```

2. Orbbec_OpenNI

Basic run test:

```
~/Desktop/Linux/OpenNI-Linux-x64-2.3.0.66/Tools$ ./NiViewer
```

Both tests run with this warning:

Warning: USB events thread - failed to set priority. This might cause loss of data...

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Astra Body Tracker:

<https://3dclub.orbbec3d.com/t/ros-package-for-astra-sdk-body-tracking-available/1797>

https://github.com/shinselrobots/astra_body_tracker

https://github.com/shinselrobots/body_tracker_msgs

1. Can't run SimpleBodyViewer-SFML:

```
./bin/ColorizedBodyViewer-SFML: error while loading shared libraries:
libsfml-graphics.so.2.4: cannot open shared object file: No such file or
directory
```

<https://itsfoss.com/solve-open-shared-object-file-quick-tip/>

```
ladak@ladak-ThinkStation-P330:~/Desktop/AstraSDK-v2.1.3-Ubuntu-x86_64/AstraSDK-v2.1.3-94bca0f52e-20210608T062039Z-Ubuntu18.04-x86_64$ apt search libsfml-graphics
Sorting... Done
Full Text Search... Done
libsfml-graphics2.5/focal,now 2.5.1+dfsg-1build1 amd64 [installed,automatic]
  Simple and Fast Multimedia Library - Graphics part
```

-maybe I need the older version of SFML?

How to reinstall libsfml-dev (2.4 instead of 2.5) to Ubuntu 20.04:

- `sudo apt-get install libsfml-dev`
=> installed 2.5
- `sudo apt-get remove libsfml-dev`
- `sudo apt autoremove`

<https://askubuntu.com/questions/1365914/error-while-loading-shared-libraries-libsfml-system-so-2-4>

- `cd ~/Downloads`
- `wget -c http://archive.ubuntu.com/ubuntu/pool/universe/libs/libsfml/libsfml-audio2.4_2.4.2+dfsg-4_amd64.deb`
- `wget -c http://archive.ubuntu.com/ubuntu/pool/universe/libs/libsfml/libsfml-graphics2.4_2.4.2+dfsg-4_amd64.deb`
- `wget -c http://archive.ubuntu.com/ubuntu/pool/universe/libs/libsfml/libsfml-network2.4_2.4.2+dfsg-4_amd64.deb`
- `wget -c http://archive.ubuntu.com/ubuntu/pool/universe/libs/libsfml/libsfml-system2.4_2.4.2+dfsg-4_amd64.deb`
- `wget -c http://archive.ubuntu.com/ubuntu/pool/universe/libs/libsfml/libsfml-window2.4_2.4.2+dfsg-4_amd64.deb`
- `sudo apt-get install ./libsfml*.deb`

OK, now it's working -tested by SDK sample ./SimpleBodyViewer-SFML.

2. Missing license for Body Tracking – Issue #1

ERROR [astra] Body Tracking Error: 0x50000c39 Invalid Orbbec Body Tracking license. Please purchase Orbbec Body Tracking License.

- <https://3dclub.orbbec3d.com/t/body-tracking-not-free-after-january-31-2018/1273/17>
- <https://3dclub.orbbec3d.com/t/orbbec-2-0-9-body-tracking-sdk-expiration/2020>
- <https://3dclub.orbbec3d.com/t/no-response-on-body-tracking-license/1776/3>
- <https://3dclub.orbbec3d.com/t/regarding-to-body-tracking-license/2856>

[dshinsel, Jun '18](#)

Due to ambiguity of the license, I have moved my efforts to using the NuiTrack SDK. It seems to work at least as well as the Astra SDK. There is a license fee for NuiTrack, but it also works with other cameras, (I want to use Orbbec and Intel RealSense D435 cameras).

Unfortunately, this is not stated anywhere in the description for the Shinsel's Robots ROS package:

<https://3dclub.orbbec3d.com/t/ros-package-for-astra-sdk-body-tracking-available/1797>

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Astra Body Tracker – Installation & Setting:

set variables for Orbbec Camera

export OPENNI2_INCLUDE=/home/ladak/Desktop/Linux/OpenNI-Linux-x64-2.3.0.66/Include

export OPENNI2_REDIST=/home/ladak/Desktop/Linux/OpenNI-Linux-x64-2.3.0.66/Redist

export ASTRA_SDK=/home/ladak/Desktop/AstraSDK-v2.1.3-Ubuntu-x86_64/AstraSDK-v2.1.3-94bca0f52e-20210608T062039Z-Ubuntu18.04-x86_64

as

export ASTRA_ROOT=/home/ladak/Desktop/AstraSDK-v2.1.3-Ubuntu-x86_64/AstraSDK-v2.1.3-94bca0f52e-20210608T062039Z-Ubuntu18.04-x86_64

export ASTRA_SDK_INCLUDE=/home/ladak/Desktop/AstraSDK-v2.1.3-Ubuntu-x86_64/AstraSDK-v2.1.3-94bca0f52e-20210608T062039Z-Ubuntu18.04-x86_64/include

export ASTRA_INCLUDE_DIR=/home/ladak/Desktop/AstraSDK-v2.1.3-Ubuntu-x86_64/AstraSDK-v2.1.3-94bca0f52e-20210608T062039Z-Ubuntu18.04-x86_64/include

export ASTRA_SDK_LIB=/home/ladak/Desktop/AstraSDK-v2.1.3-Ubuntu-x86_64/AstraSDK-v2.1.3-94bca0f52e-20210608T062039Z-Ubuntu18.04-x86_64/lib

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3. Cannot build package 'astra_body_tracker'

catkin_make:

```
- body_tracker_msgs      OK
- ros_astra_camera      OK

- astra_body_tracker     ERROR
```

1. Solve errors one by one:

deprectated 'rebind':

- add_compile_options(-std=c++11)
- doesn't work.

2. Solution from https://github.com/shinselrobots/astra_body_tracker/issues/4:
use older code:
- body_tracker_msgs; commit 104097b8a4
 - doesn't work.

catkin build:

- body_tracker_msgs OK
- ros_astra_camera OK
- astra_body_tracker OK

31. 1. 2022

- the same issue again:

1. error while loading shared libraries: libastra_core.so: cannot open shared object file: No such file or directory

LD_LIBRARY_PATH =

/home/ladak/catkin_ws/devel/lib:/opt/ros/noetic/lib:/home/ladak/Desktop/AstraSDK/lib

- add to the LD_LIBRARY_PATH dir with libastra_core.so -OK

2. error: no class template named 'rebind' in 'class:

no idea how to solve it:

<https://github.com/oneapi-src/oneTBB/issues/383>

- -CMAKE_CXX_FLAGS=-DTBB_ALLOCATOR_TRAITS_BROKEN

... doesn't work.

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Astra Body Tracker in Rviz

T1: rosrn tf static_transform_publisher 0 0 0 0 0 1 map my_frame 10

T2: rviz -f my_frame

T3: rosrn astra_body_tracker astra_body_tracker_node

- T1, T2 as single launch file:

<https://answers.ros.org/question/232731/how-to-start-rviz-with-a-fixed-frame/>

Topic: /body_tracker/markerastra_core

After the skeleton has been recognized:

astra_body_tracker/2 (../3, ...)

For frame [astra_camera_link]: Frame [astra_camera_link] does not exist

TODO:

- create URDF and include the camera link
- if the camera is mounted on a robot, and included in the URDF, the /body_tracker/marker topic will show the position of the user (spine joints) as balls in RVIZ.

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PCL Object Detection

https://github.com/shinselrobots/pcl_object_detecton

- upgrade C++ version to 14
- sudo apt-get install ros-kinetic-tf2-sensor-msgs → sudo apt-get install ros-noetic-tf2-sensor-msgs
- build ok;
- TODO: no object detected!

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- markers in rViz:

some error when converting coordinates:

```
SetJointPositionByWorldPosition(body, ASTRA_JOINT_HEAD,  
skeleton_data.joint_position_head);
```

-inside this method it's working fine;

-after that all zero (before PublishCubeMarker

- it seems like the reference is missing – why it was working before?