Astra相机使用方法

官网链接：https://orbbec3d.com/develop/

Astra相机：https://github.com/orbbec/ros_astra_camera

普通相机：https://github.com/bosch-ros-pkg/usb_cam.git

开发者社区：https://developer.orbbec.com.cn/download.html?id=53

Astra SDK搭建官方视频教程：https://developer.orbbec.com.cn/develop_details.html?id=3

Create astra udev rule（单品深度相机需执行）

```
cd ~/astra_ws/src
./create.sh
```

launch启动命令

Launch文件	启动相机型号
astra.launch	Astra,Astra S,Astra mini，Astra mini S
astraplus.launch	Astra plus
astrapro.launch	Astra pro
embedded_s.launch	Deeyea
dabai_u3.launch	Dabai
gemini.launch	Gemini

1、SDK使用-Linux

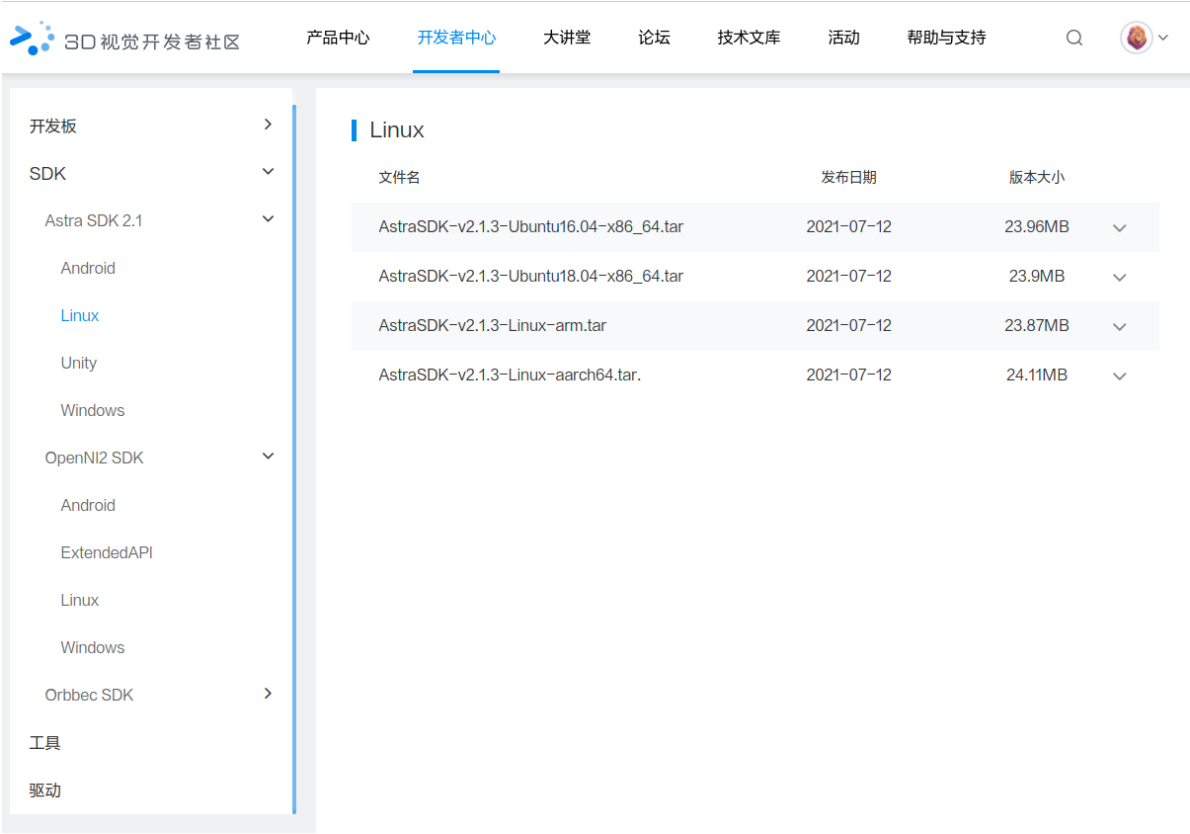
运行环境：虚拟机或双系统

开发者社区：https://developer.orbbec.com.cn/download.html?id=53

1.1、依赖环境

```
sudo apt-get install ros-melodic-serial ros-melodic-bfl ros-melodic-mbf-msgs ros-melodic-pointcloud-to-laserscan ros-melodic-rgbd-launch ros-melodic-libuvc-* ros-melodic-uvc-camera ros-melodic-usb-cam ros-melodic-ar-track-alvar ros-melodic-camera-calibration build-essential freeglut3 freeglut3-dev libsfml-dev
```

去开发者社区下载SDK文件，即（Astra SDK和OpenNI2 SDK，版本、系统架构要匹配）



1.2、相机SDK&Samples

文件夹名可能不相同，根据自己需求更改。

```
tar -zxvf AstraSDK-v2.1.3-Ubuntu18.04-x86_64.tar.gz
cd AstraSDK-v2.1.3-Ubuntu18.04-x86_64.tar.gz/install  # 进入install文件夹
sudo sh ./install.sh
```

输出结果包含以下两行，注意把倒数第二个路径里的install删掉：

```
export ASTRA_SDK_INCLUDE=/home/yahboom/astra/AstraSDK-v2.1.3-Ubuntu18.04-
x86_64/install/include
export ASTRA_SDK_LIB=/home/yahboom/astra/AstraSDK-v2.1.3-Ubuntu18.04-
x86_64/install/lib
```

删掉install之后：

```
export ASTRA_SDK_INCLUDE=/home/yahboom/astra/AstraSDK-v2.1.3-Ubuntu18.04-
x86_64/include
export ASTRA_SDK_LIB=/home/yahboom/astra/AstraSDK-v2.1.3-Ubuntu18.04-x86_64/lib
```

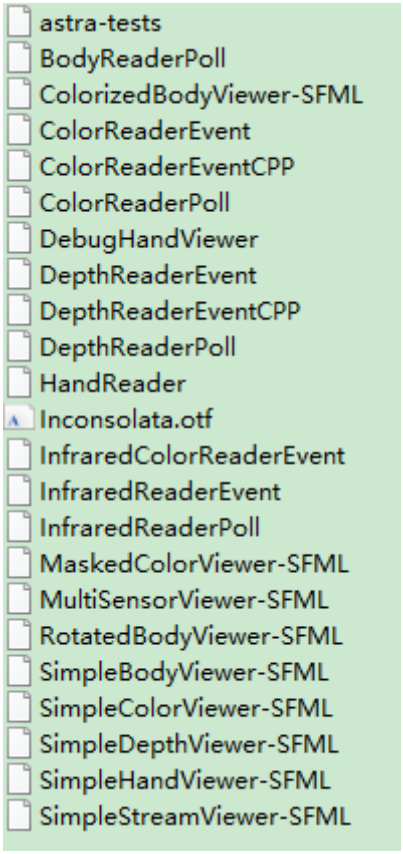
将输出结果复制到~/.bashrc尾部

```
gedit ~/.bashrc
source ~/.bashrc
```

amples目录中即是示例程序，需要依赖include和lib目录

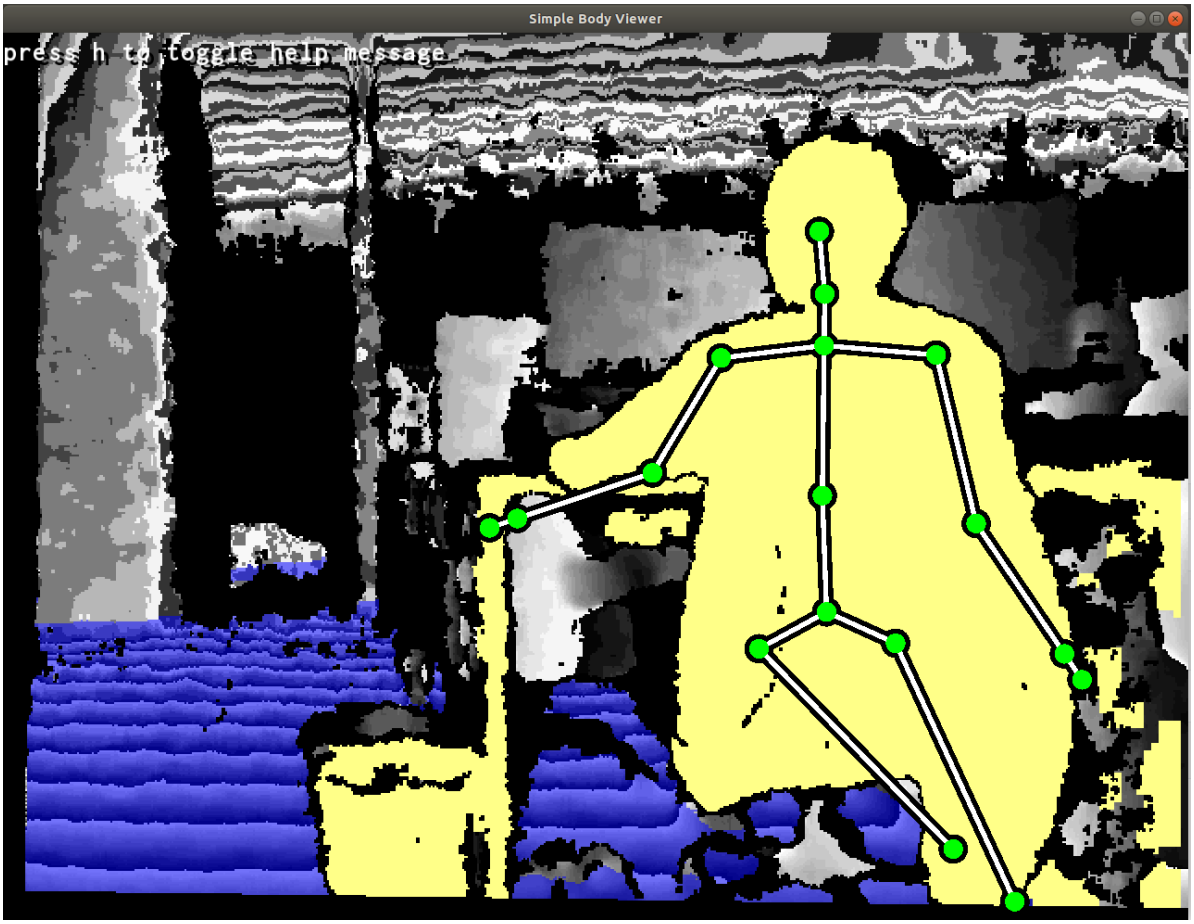
- SFML效果演示

bin文件夹如下：



注意：bin文件夹下均可采取sudo ./或./的方式启动，启动后缀带有-SFML的文件，有画面显示；方式都类似，其他效果可以进行测试。在虚拟机会有启动不成功得现象，请多试几次，目前不清楚什么原因，在双系统下比较容易启动。

```
cd ~/AstraSDK-v2.1.3-Ubuntu18.04-x86_64/bin/
./SimpleBodyViewer-SFML    # 骨骼检测
./SimpleHandViewer-SFML    # 手指跟随
```



1.3、OpenNI相机测试工具

安装OpenNI

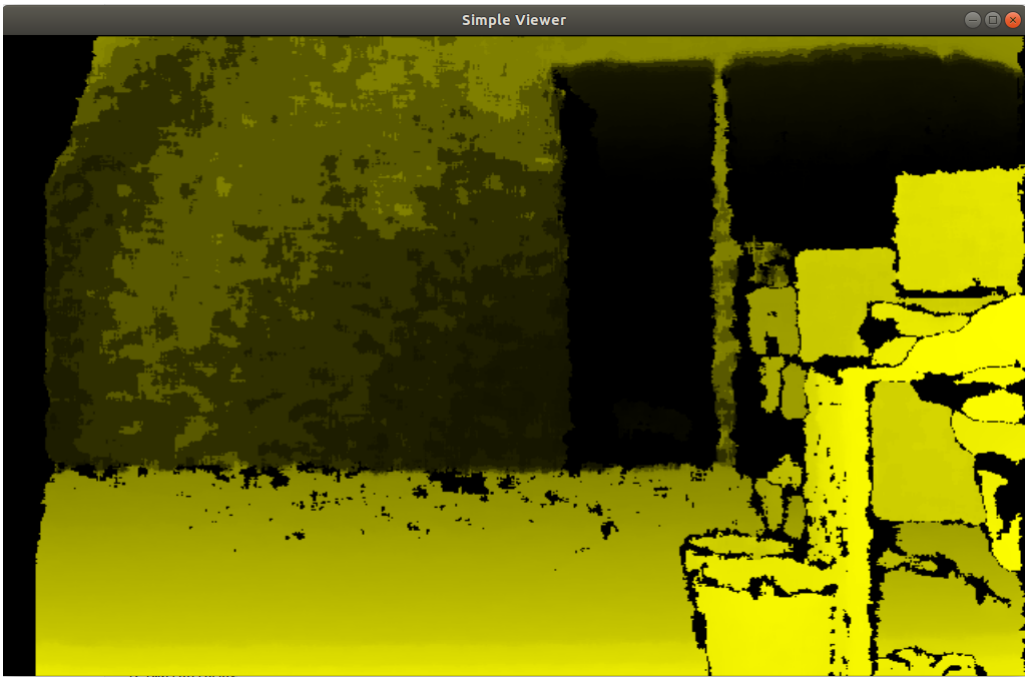
```
unzip OpenNI_2.3.0.55.zip
cd OpenNI_2.3.0.55/Linux/OpenNI-Linux-x64-2.3.0.55
chmod +x install.sh
sudo ./install.sh
```

重新拔插设备
初始化OpenNI环境

```
source OpenNIDevEnvironment
```

编译运行

```
cd Samples/SimpleViewer
make
cd Bin/x64-Release
./SimpleViewer
```

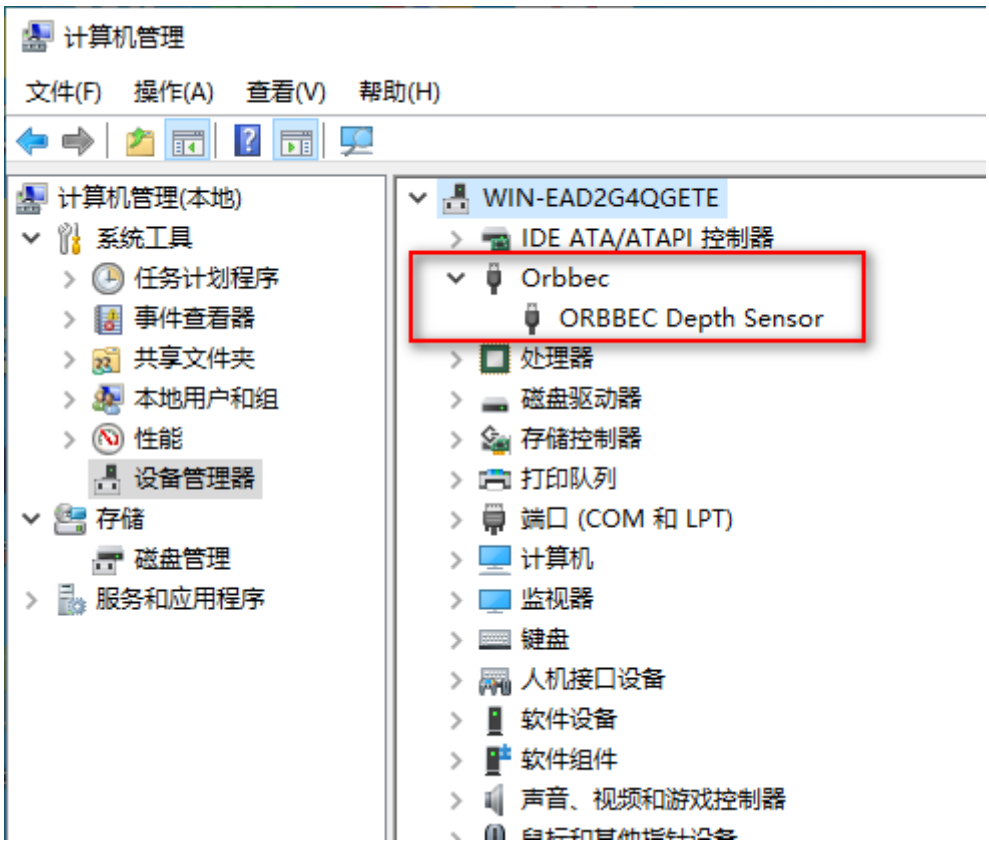


2、AstraSDK-win

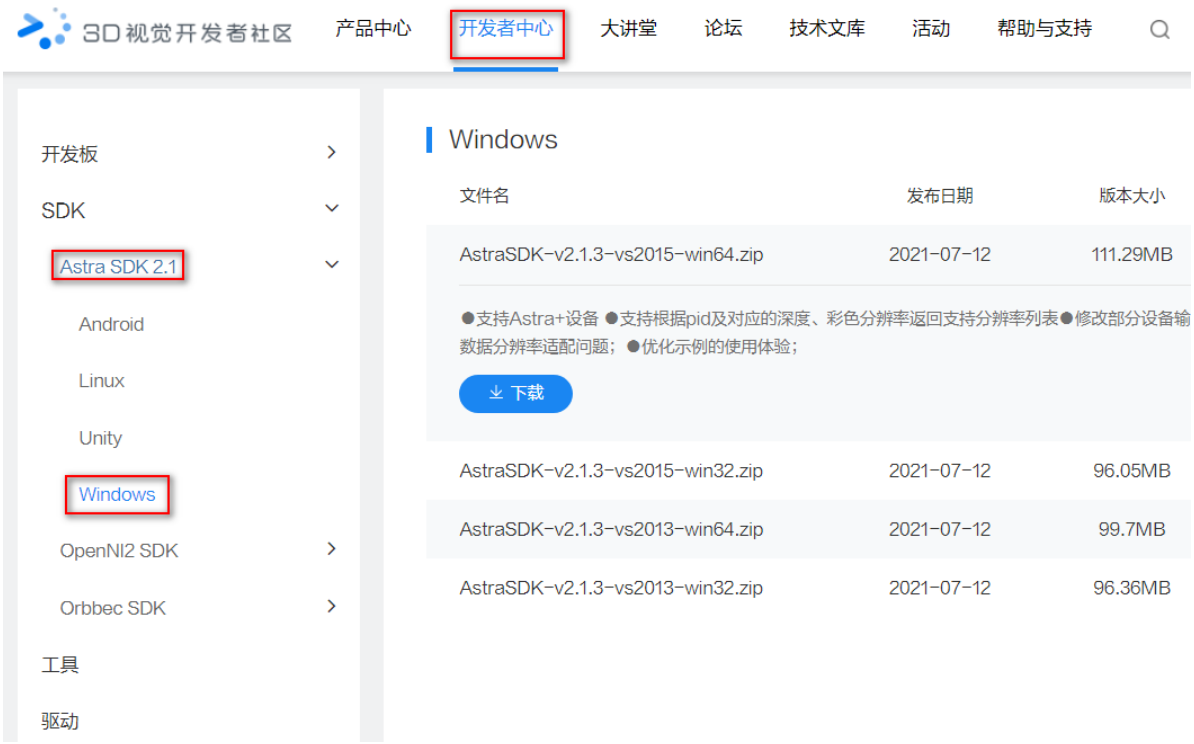
https://developer.orbbec.com.cn/download.html?id=31

2.1、安装驱动

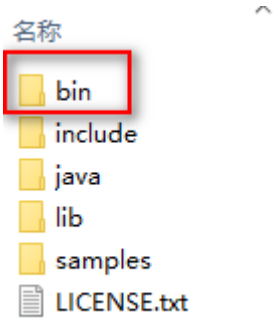
下载完毕后，双击安装即可。成功的标志如下



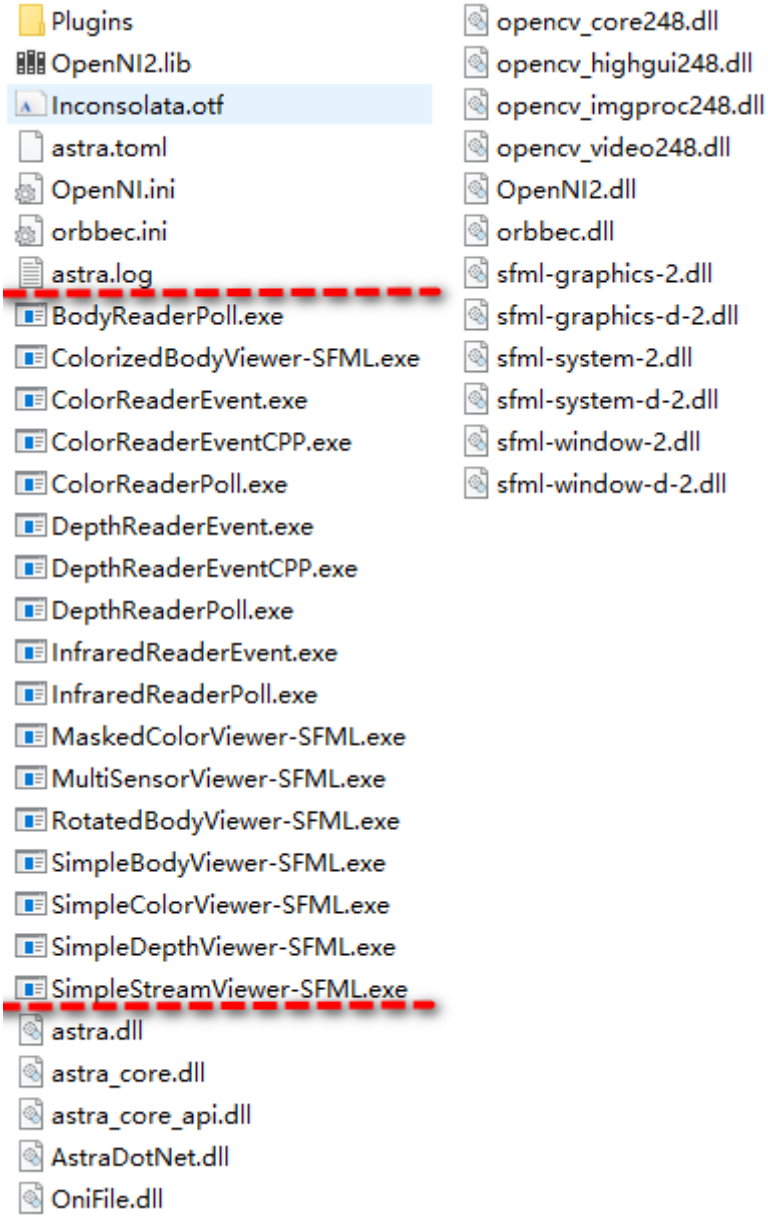
2.2、下载SDK



下载完毕后，解压该文件夹，



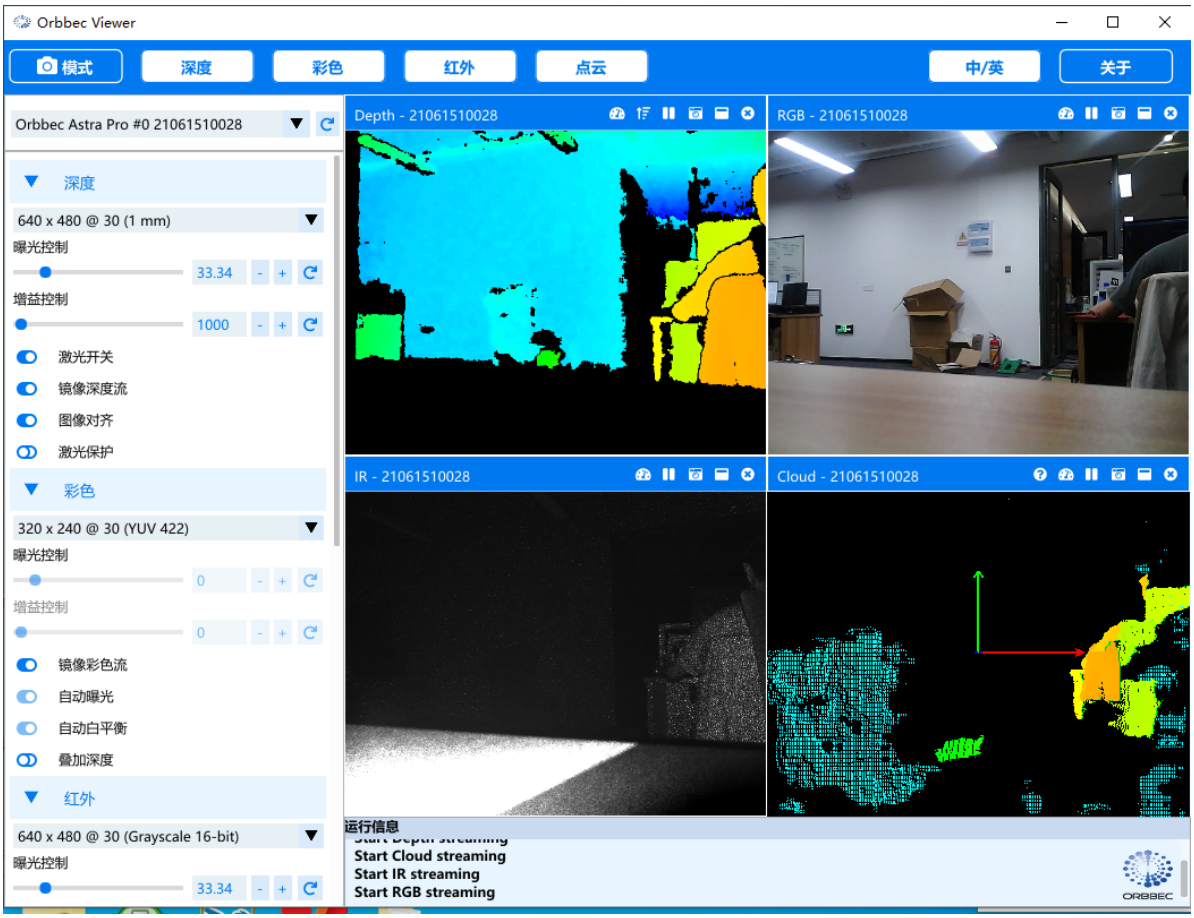
进入bin文件夹，双击后缀带有exe的任意文件测试即可。



3、OrbbecViewer-win

https://developer.orbbec.com.cn/download.html?id=31

解压，进入OrbbecViewer_v1.1.1文件夹，双击即可。



4、网页监控

环境搭建

```
sudo apt-get install ros-melodic-async-web-server-cpp ros-melodic-web-video-server ros-melodic-usb-cam
```

启动相机

```
roslaunch astra_camera astrapro.launch    # Astra
roslaunch usb_cam usb_cam-test.launch     # USB
```

启动web_video_server

```
rosrun web_video_server web_video_server
```

查看

```
本地web浏览器查看
http://localhost:8080/
必须在同一个局域网下，其他设备查看
http://192.168.2.103:8080/
（192.168.2.103为该主控的IP地址）
注意：建议使用谷歌浏览器或手机QQ浏览器，其他浏览器可能无法打开图像
```