

# cartographer数据集上评估记录

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数据集运行完后用ros导出运行后的轨迹，并参照官方文档中方法进行误差计算，可以得到论文中类似结果

```
source setup.bash # install下的bash

rosservice call /finish_trajectory 0

rosservice call /write_state "filename: '' " #filename指向数据集存放的
download目录中

roslaunch cartographer_ros cartographer_pbstream_to_ros_map -
map_filestem=/home/sunshine/catkin_unchange/mamap -
pbstream_filename=/home/sunshine/catkin_unchange/mymap.pbstream -
resolution=0.05

cd build_isolated/cartographer/install #此时该处的目录要对应存放 .pgm
.pbstream .yaml 三个文件

./cartographer_autogenerate_ground_truth -pose_graph_filename mymap.pbstream
-output_filename relations.pbstream -min_covered_distance 100 -
outlier_threshold_meters 0.15 -outlier_threshold_radians 0.02

./cartographer_compute_relations_metrics -relations_filename
relations.pbstream -pose_graph_filename mymap.pbstream #mymap是自己命名的文件
名 同上
```

```

sunshine@sunshine-XPS-13-9360:~/catkin_unchange$ source devel_isolated/setup.bash
sunshine@sunshine-XPS-13-9360:~/catkin_unchange$ rosservice call /finish_trajectory 0
status:
  code: 0
  message: "Finished trajectory 0."
sunshine@sunshine-XPS-13-9360:~/catkin_unchange$ rosservice call /write_state "filename: '/home/sunshine/catkin_unchange'
include_unfinished_submaps: false"
^C
sunshine@sunshine-XPS-13-9360:~/catkin_unchange$ rosservice call /write_state "filename: '/home/sunshine/catkin_unchange'
include_unfinished_submaps: false"
status:
  code: 3
  message: "Failed to write '/home/sunshine/catkin_unchange'."
sunshine@sunshine-XPS-13-9360:~/catkin_unchange$ roslaunch cartographer_r
artographer_ros      cartographer_ros_msgs cartographer_rviz
sunshine@sunshine-XPS-13-9360:~/catkin_unchange$ roslaunch cartographer_ros cartographer_pbstream_to_ros_map -map_filename=/home/sunshine/catkin_unchange/nanap -pbstream_
nynap.pbstream -resolution=0.05
0406 20:10:40.069804 4422 pbstream_to_ros_map_main.cc:43] Loading submap slices from serialized data.
0406 20:10:40.527086 4422 pbstream_to_ros_map_main.cc:51] Generating combined map image from submap slices.
sunshine@sunshine-XPS-13-9360:~/catkin_unchange$ ll
5 用 量  503532
-rwxr-xr-x 10 sunshine sunshine      4096 4月  6 20:10 ./
-rwxr-xr-x 130 sunshine sunshine    12288 4月  6 20:00 ./
-rw-r--r-- 1 sunshine sunshine     68924 1月 10 18:08 1.png
-rw-r--r-- 1 sunshine sunshine     768478 1月 10 18:18 2019-12-19-18-20-33.bag
-rw-r--r-- 1 sunshine sunshine    1422567 1月  7 11:20 2019-12-19-18-21-13.bag
-rw-r--r-- 1 sunshine sunshine    10333281 1月 13 16:48 2019-12-19-18-21-40.bag
-rw-r--r-- 1 sunshine sunshine    1057557 1月  7 10:47 2019-12-19-18-24-55.bag
-rw-r--r-- 1 sunshine sunshine    2307880 1月  7 11:27 2019-12-19-18-25-46.bag
-rw-r--r-- 1 sunshine sunshine    387710 1月 10 18:25 2019-12-19-18-28-05.bag
-rw-r--r-- 1 sunshine sunshine    1621535 1月  7 10:51 2019-12-19-18-28-47.bag
-rw-r--r-- 1 sunshine sunshine    1886265 1月  7 11:31 2019-12-19-18-30-45.bag
-rw-r--r-- 1 sunshine sunshine    1632397 12月 20 15:38 2019-12-20-15-38-07.bag
-rw-r--r-- 1 sunshine sunshine    279275 1月  9 15:11 2020-01-09-15-10-59.bag
-rw-r--r-- 1 sunshine sunshine    342170 1月  9 16:30 2020-01-09-16-30-14.bag
-rw-r--r-- 1 sunshine sunshine    232190 1月 10 20:23 2020-01-10-20-23-16_01_plot.png
-rw-r--r-- 1 sunshine sunshine    8307252 1月 14 16:27 2020-01-14-16-25-40.bag
-rw-r--r-- 1 sunshine sunshine    1877005 12月 25 19:01 bag
-rw-r--r-- 1 sunshine sunshine    901382 12月 25 19:36 bag1
-rwxr-xr-x 7 sunshine sunshine      4096 1月 14 16:05 build_isolated/
-rw-r--r-- 1 sunshine sunshine    1691244 12月 24 10:44 cartographer_lm_fusion.bag
-rw-r--r-- 1 sunshine sunshine    493377445 9月 26 2019 cartographer_paper_deutsches_museum.bag
-rw-r--r-- 1 sunshine sunshine    3184397 4月  6 15:32 cartographer_paper_revo_lds.bag
-rw-r--r-- 1 sunshine sunshine       98 12月 13 18:18 .catkin_workspace
-rwxr-xr-x 6 sunshine sunshine      4096 1月 14 16:05 devel_isolated/
-rwxr-xr-x 2 sunshine sunshine      4096 1月  7 17:02 imu_vs_imu_rplidar/
-rw-r--r-- 1 sunshine sunshine    2086528 1月  7 11:31 imu_vs_rplidar_imu.bag
-rwxr-xr-x 6 sunshine sunshine      4096 4月  4 15:50 install_isolated/
-rw-r--r-- 1 sunshine sunshine    13612492 12月 20 18:59 li.bag
-rw-r--r-- 1 sunshine sunshine    556901 4月  6 20:10 nanap.pgm
-rw-r--r-- 1 sunshine sunshine      150 4月  6 20:10 nanap.yaml
-rw-r--r-- 1 sunshine sunshine    4878298 4月  6 17:32 nynap.pbstream
-rwxr-xr-x 3 sunshine sunshine      4096 1月 13 18:11 newbag/
-rw-r--r-- 1 sunshine sunshine    15385026 1月 13 18:16 newbag.tar.gz
-rw-r--r-- 1 sunshine sunshine    4003414 11月 26 18:06 quankuatsu.bag
-rw-r--r-- 1 sunshine sunshine      1772 4月  4 11:20 readme.txt
-rw-r--r-- 1 sunshine sunshine    12288 1月 10 14:20 .readme.txt.swp
-rwxr-xr-x 2 sunshine sunshine      4096 1月 10 13:54 shanchuan_lidar_slan_datas/
-rwxr-xr-x 6 sunshine sunshine      4096 1月 14 16:04 src/
-rw-r--r-- 2 sunshine sunshine      4096 1月 14 17:19 .vscode/
-rw-r--r-- 1 sunshine sunshine    12077375 12月 20 18:50 vi.ban

```

**I0111 18:25:35.065877 3893 compute\_relations\_metrics\_main.cc:212] Result:**  
 Abs translational error 0.02166 +/- 0.01737 m  
 Sqr translational error 0.00077 +/- 0.00159 m^2  
 Abs rotational error 0.12605 +/- 0.13076 deg