cartographer数据集上评估记录

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:
'${HOME}/Downloads/map.pbstream'}"#filename指向数据集存放的download目录中

  rosrun cartographer_ros cartographer_pbstream_to_ros_map -
map_filestem=/home/y00/Downloads/map2 -
pbstream_filename=/home/y00/Downloads/map2.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
```

```
unshine@sunshine-XPS-13-9360:~/catkin_unchange$ source devel_isolated/setup.bash
unshine@sunshine-XPS-13-9360:~/catkin_unchange$ rosservice call /finish_trajectory 0
tatus:
 code: 0
 message: "Finished trajectory 0."
unshine@sunshine-XPS-13-9360:~/catkin_unchange$ rosservice call /write_state "filename: '/home/sunshine/catkin_unchange'
nclude_unfinished_submaps: false"'

^C
unshine@sunshine-XPS-13-9360:~/catkin_unchange$ rosservice call /write_state "filename: '/home/sunshine/catkin_unchange'
nclude_unfinished_submaps: false"
tatus:
 code: 3
 message: "Failed to write '/home/sunshine/catkin_unchange'."
unshine@sunshine-XPS-13-9360:~/catkin_unchange$ rosrun cartographer_r
artographer_ros       cartographer_ros_msgs  cartographer_rviz
unshine@sunshine-XPS-13-9360:~/catkin_unchange$ rosrun cartographer_ros cartographer_pbstream_to_ros_map -map_filestem=/home/sunshine/catkin_unchange/mamap -pbstream_f
ymap.pbstream -resolution=0.05
0406 20:10:40.069864  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.
unshine@sunshine-XPS-13-9360:~/catkin_unchange$ ll
总用量 503532
rwxrwxr-x  10 sunshine sunshine      4096 4月   6 20:10 ./
rwxr-xr-x 130 sunshine sunshine     12288 4月   6 20:00 ../
rw-rw-r--   1 sunshine sunshine     68924 1月  10 18:08 1.png
rw-rw-r--   1 sunshine sunshine    760478 1月  10 18:18 2019-12-19-18-20-33.bag
rw-rw-r--   1 sunshine sunshine   1422567 1月   7 11:20 2019-12-19-18-21-13.bag
rw-rw-r--   1 sunshine sunshine  10333281 1月  13 16:48 2019-12-19-18-21-40.bag
rw-rw-r--   1 sunshine sunshine   1057557 1月   7 10:47 2019-12-19-18-24-55.bag
rw-rw-r--   1 sunshine sunshine   2307880 1月   7 11:27 2019-12-19-18-25-46.bag
rw-rw-r--   1 sunshine sunshine    587719 1月  10 18:25 2019-12-19-18-28-05.bag
rw-rw-r--   1 sunshine sunshine   1621535 1月   7 10:51 2019-12-19-18-29-47.bag
rw-rw-r--   1 sunshine sunshine   1886265 1月   7 11:31 2019-12-19-18-30-45.bag
rw-rw-r--   1 sunshine sunshine   1632397 12月 20 15:38 2019-12-20-15-38-07.bag
rw-rw-r--   1 sunshine sunshine    279275 1月   9 15:11 2020-01-09-15-10-59.bag
rw-rw-r--   1 sunshine sunshine    342170 1月   9 16:38 2020-01-09-16-38-14.bag
rw-rw-r--   1 sunshine sunshine    232190 1月  10 20:23 2020-01-10_20-23-16_01_plot.png
rw-rw-r--   1 sunshine sunshine   8307252 1月  14 16:27 2020-01-14-16-25-40.bag
rw-rw-r--   1 sunshine sunshine   1877005 12月 25 19:01 bag
rw-rw-r--   1 sunshine sunshine    901302 12月 25 19:36 bag1
rwxrwxr-x   7 sunshine sunshine      4096 1月  14 16:05 build_isolated/
rw-rw-r--   1 sunshine sunshine   1691244 12月 24 10:44 cartographer_imu_fusion.bag
rw-rw-r--   1 sunshine sunshine 493377445 9月  26  2019 cartographer_paper_deutsches_museum.bag
rw-rw-r--   1 sunshine sunshine   3184397 4月   6 15:32 cartographer_paper_revo_lds.bag
rw-rw-r--   1 sunshine sunshine        98 12月 13 18:18 .catkin_workspace
rwxrwxr-x   6 sunshine sunshine      4096 1月  14 16:05 devel_isolated/
rwxrwxr-x   2 sunshine sunshine      4096 1月   7 17:02 imu_vs_imu_rplidar/
rw-rw-r--   1 sunshine sunshine   2086528 1月   7 11:31 imu_vs_rplidar_imu.bag
rwxrwxr-x   6 sunshine sunshine      4096 4月   4 15:50 install_isolated/
rw-rw-r--   1 sunshine sunshine  13012492 12月 20 18:59 l1.bag
rw-rw-r--   1 sunshine sunshine    556901 4月   6 20:10 mamap.pgm
rw-rw-r--   1 sunshine sunshine       150 4月   6 20:10 mamap.yaml
rw-rw-r--   1 sunshine sunshine   4878298 4月   6 17:32 mymap.pbstream
rwxrwxr-x   3 sunshine sunshine      4096 1月  13 18:11 newbag/
rw-rw-r--   1 sunshine sunshine  15385026 1月  13 18:16 newbag.tar.gz
rw-rw-r--   1 sunshine sunshine   4003414 11月 26 18:06 quankuaisu.bag
rw-rw-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
rwxrwxr-x   2 sunshine sunshine      4096 1月  10 13:54 shanchuan_lidar_slam_datas/
rwxrwxr-x   6 sunshine sunshine      4096 1月  14 16:04 src/
rwxrwxr-x   2 sunshine sunshine      4096 1月  14 17:19 .vscode/
rw-rw-r--   1 sunshine sunshine  12977375 12月 20 18:59 v1.bag
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
```