Progress Summary

28.4.2020

Today I have done the following:

1) After reading some articles from IDS imaging, I found out using “gain boost” which is analog gain, is better than using “master gain” which is done by software. So, I have tried and the DSO performance was noticeably better!

   I tried to look for more details that could improve performance, but couldn’t find something concrete.

2) I have noticed, that one of the camera calibration options in the DSO GitHub repo README.md file, is EquiDistant. And after googling it, I found it that this is meant for the Fisheye Model which is exactly what are we using. It takes 4 more arguments in the file, which are the distort coefficients from the camera calibration (K1 K2 R1 R2).

   The idea is, the DSO algorithm would use undistort to remove the fisheye effect from the video. So after sometime, I managed to get these 4 parameters from the calibration. However, it did not work!

   We have fisheye lens with high resolution, and after some research, I found out that undistoring this kind of video is nearly impossible.

   So, we have decided to wait for the new FOV lens!