Testing Camera Configurations

**Background:**

The RPi cameras are being used to track infrared markers. The cameras can be set up in a range of positions and orientations. Here I test various configurations an asses their accuracy and precision. To do this I used the methods of FLATTERS, who placed two IR-LED’s on a wand and moved it through a specified workspace volume. The distance between the IR markers was calculated in each frame to provide a measure of positional error.

The error depends on several factors including the quality of the camera calibration, the stereo camera calibration, the movement of the IR-diodes and the synchrony of the cameras.

I assume that increasing the distance between cameras will lead to better results.