5. CONCLUSION

This paper evaluated the camera calibration techniques using images and the orientation parameter of sensor values from mobiles device for UAVs. Normal camera calibration with a consumer grade digital camera yielded the same result as with calibration using the sensor value with an Android device.

In the experiment using the image and sensor values of the Android device, an RMSE greater than the standard error was obtained. This result has a different trend from the result obtained using a consumer grade digital camera. However, the authors believe that the large RMSE was caused by the camera calibration technique used because the same error was obtained in normal camera calibration. Therefore, the sensor value of an Android device can be used in a UAV, as a large difference is not observed in the measurement accuracy.

Future tasks include camera calibration using the sensor value and GPS of an Android device and mounting an Android device on a UAV.

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