Date

Sensitivity:

1. Accelerometer

(The first row is the phone measurement data, and the second row is the sensor output data. The measurement in the column are in the same time)

Note: the units in the phone is different with sensor output.

x-axis

a(m/s^2)	1.7353	5.022	12.502	-5.318	9.661	6.303	-6.698
ouput	0.18g	0.53g	1.42g	-0.53g	1g	0.65g	-0.72g

y-axis

a(m/s^2)	10.022	-5.837	-12.273	-17.571	15.088	-12.571	11.005
output	0.99g	-0.60g	-1.19g	-1.73g	1.61g	-1.31g	1.02g

2. Gyroscope

y-axis

w(rad/s)	-4.383	4.347	-4.281	-1.351	4.285	-4.451	0.348	4.354
output(d \s)	-251.70	248.29	-245.35	-73.66	248.29	-251.70	22.24	248.29

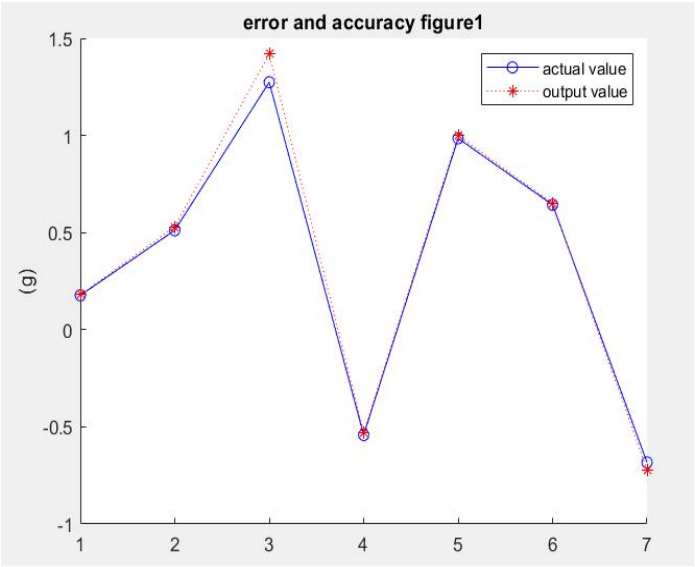
z-axis

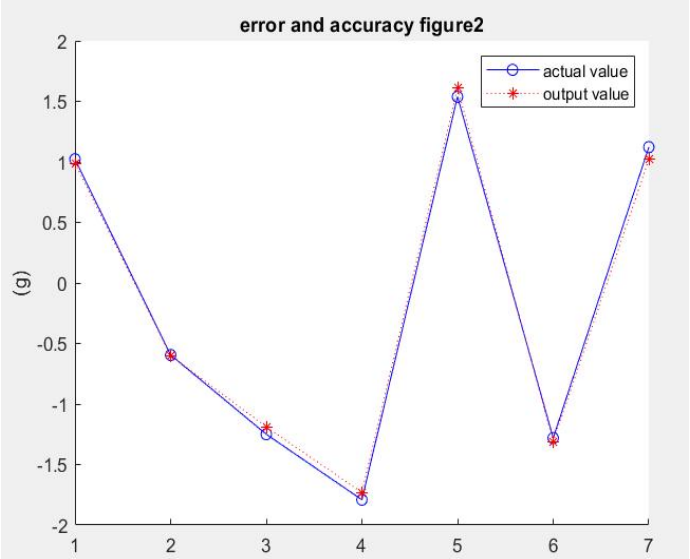
w(rad/s)	0.730	1.404	1.337	-0.436	3.816	-0.753	-1.5486	-0.366
output(d /s)	42.31	80.36	77.88	-23.10	218.21	-40.9	-88.65	-21.68

Use the above measurement data to draw a chart to obtain accuracy.

Accuracy: 1. Accelerometer

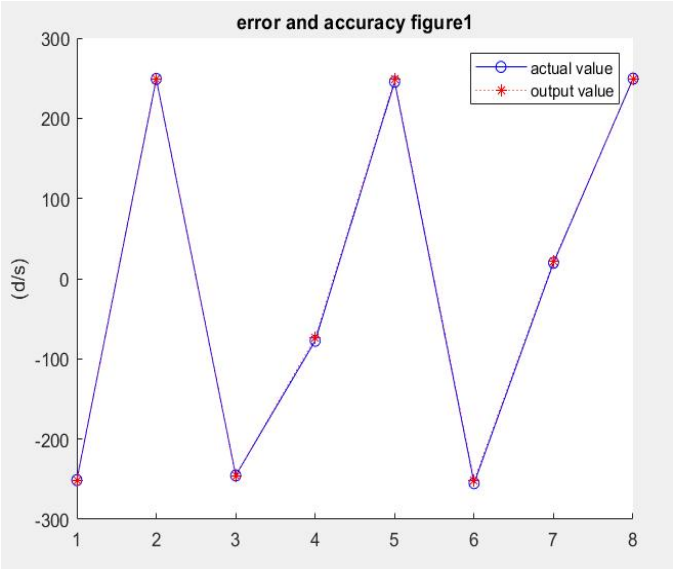
the error of the accelerometer: 0.2%

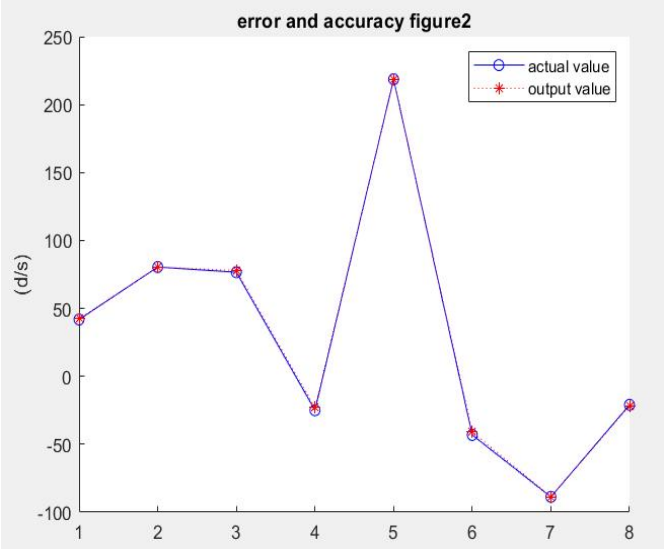




3. Gyroscope

the error of the gyroscope: 0.01%





Drift:

t(s)	14	15	16	17	18	19	20	21	22	23	24	25
AcX	0.04	0.04	0.05	0.04	0.03	0.04	0.04	0.10	0.04	0.04	0.04	0.04
AcY	0.03	0.03	0.03	0.04	0.03	0.04	0.03	0.00	0.03	0.03	0.03	0.03
AcZ	1.14	1.15	1.14	1.14	1.13	1.14	1.14	0.94	1.16	1.14	1.14	1.14
GyX	-1.57	-1.44	-1.81	-1.50	-1.82	-1.64	-1.62	-1.71	-1.28	-1.63	-1.61	-1.59
GyY	-2.42	-2.40	-2.31	-2.26	-2.41	-2.33	-2.48	-3.23	-2.33	-2.34	-2.31	-2.39
GyZ	0.95	0.94	1.18	0.92	0.91	0.98	0.99	0.94	1.10	1.08	0.96	1.12

the accelerometer just has smaller deviations, and the gyroscope has larger deviations.