

MTiG Position Sensor Accuracy Test

John Liu

Advisor:

Professor Ying-Jeng Wu

Measurement Laboratory, National Yunlin University of Science & Technology

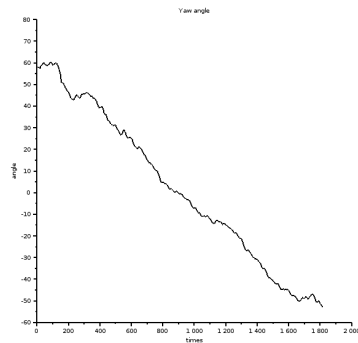
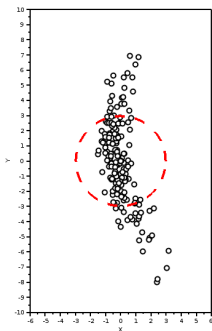
April 24, 2014

- 1 Outline
- 2 Stationary Test
- 3 Dynamic Test
- 4 Conclusion

Stationary Test: Test 1

$$\sigma = 2.967$$

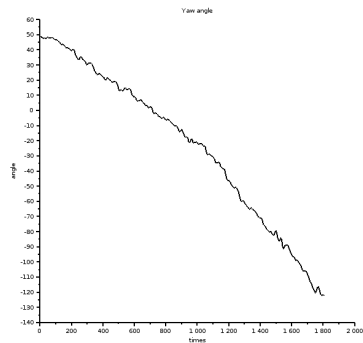
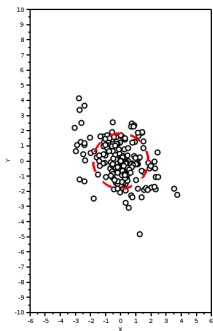
Average Satellite Number $N = 8.14$



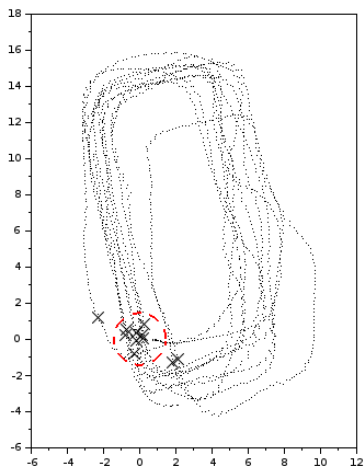
Stationary Test: Test 2

$$\sigma = 1.819$$

$$N = 7.92$$



Dynamic Test: Test 1



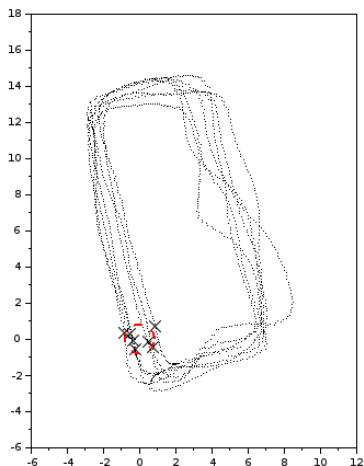
Date: 2014/04/22

Time: 10:30

$\sigma = 1.435$

$N = 6.81$

Dynamic Test: Test 2



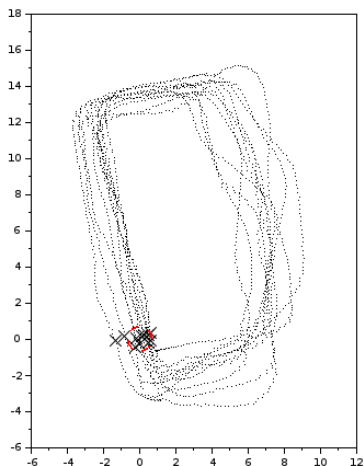
Date: 2014/04/22

Time: 15:30

$\sigma = 0.807$

$N = 8.24$

Dynamic Test: Test 3



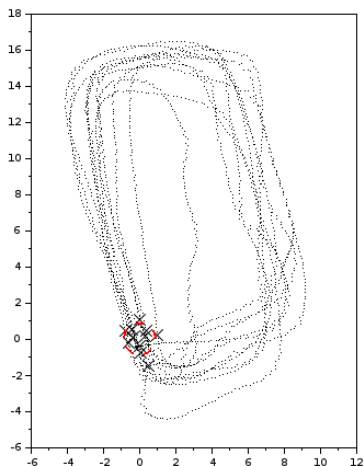
Date: 2014/04/22

Time: 20:30

$\sigma = 0.668$

$N = 7.95$

Dynamic Test: Test 4



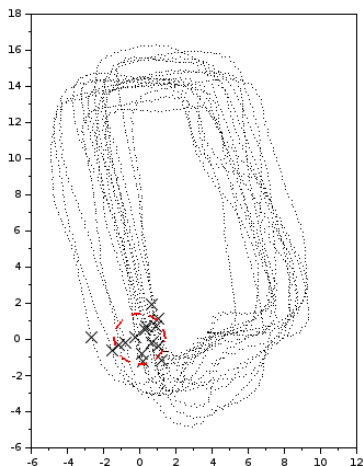
Date: 2014/04/23

Time: 10:30

$\sigma = 0.871$

$N = 5.92$

Dynamic Test: Test 5



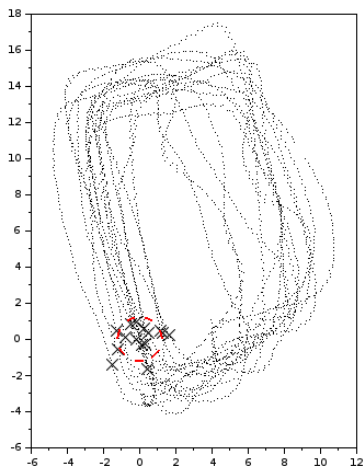
Date: 2014/04/23

Time: 15:30

$\sigma = 1.400$

$N = 5.76$

Dynamic Test: Test 6



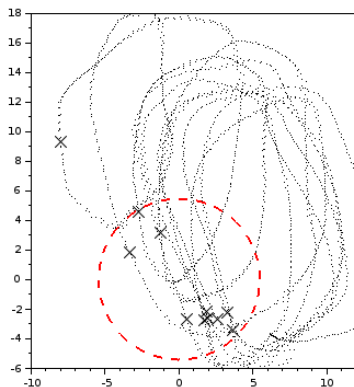
Date: 2014/04/23

Time: 20:30

$\sigma = 1.217$

$N = 7.90$

Dynamic Test: Test 7



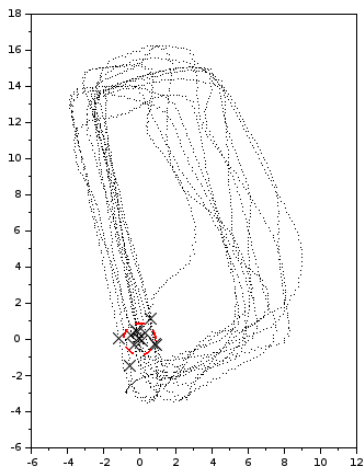
Date: 2014/04/24

Time: 10:30

$\sigma = 5.446$

$N = 5.47$

Dynamic Test: Test 8



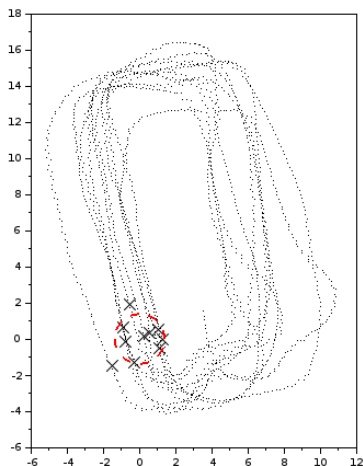
Date: 2014/04/24

Time: 15:30

$\sigma = 0.876$

$N = 5.89$

Dynamic Test: Test 9



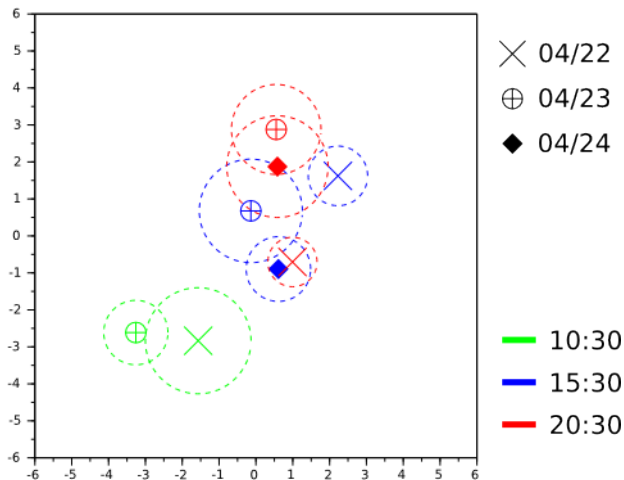
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Time: 20:30

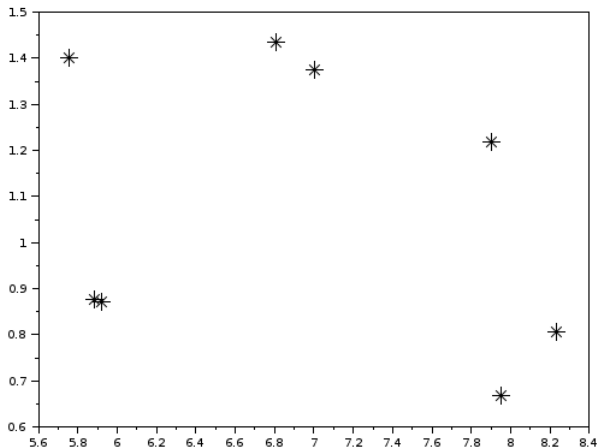
$\sigma = 1.375$

$N = 7.00$

Dyanmic Test: Time Dependence



Dyanmic Test: Satellite Number Dependence



Conclusion

- 1 Measurement of yaw angle cannot converged without movement.
- 2 Measurement of position depends on measuring time.
- 3 There is no correlation between accuracy and satellite number.