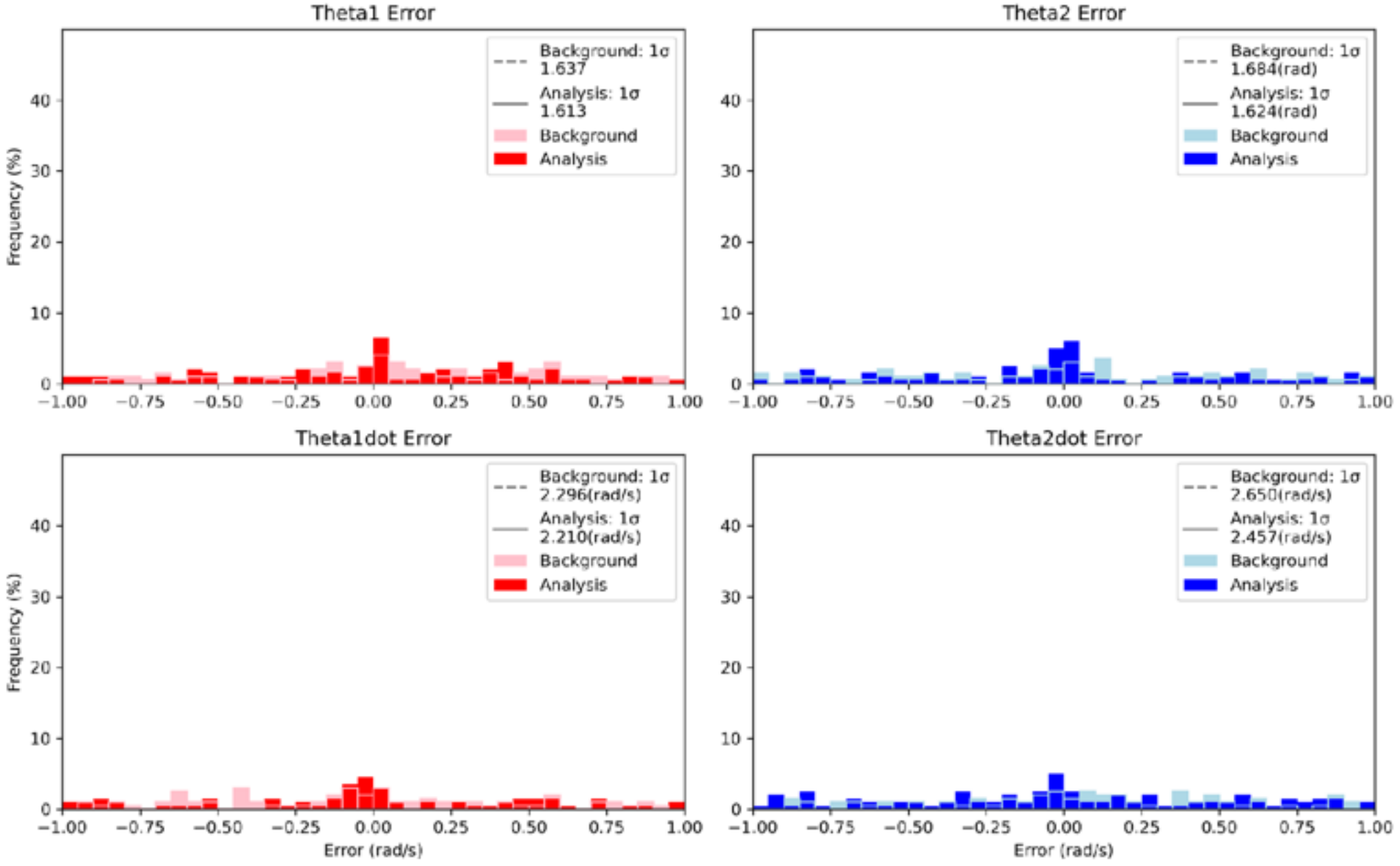
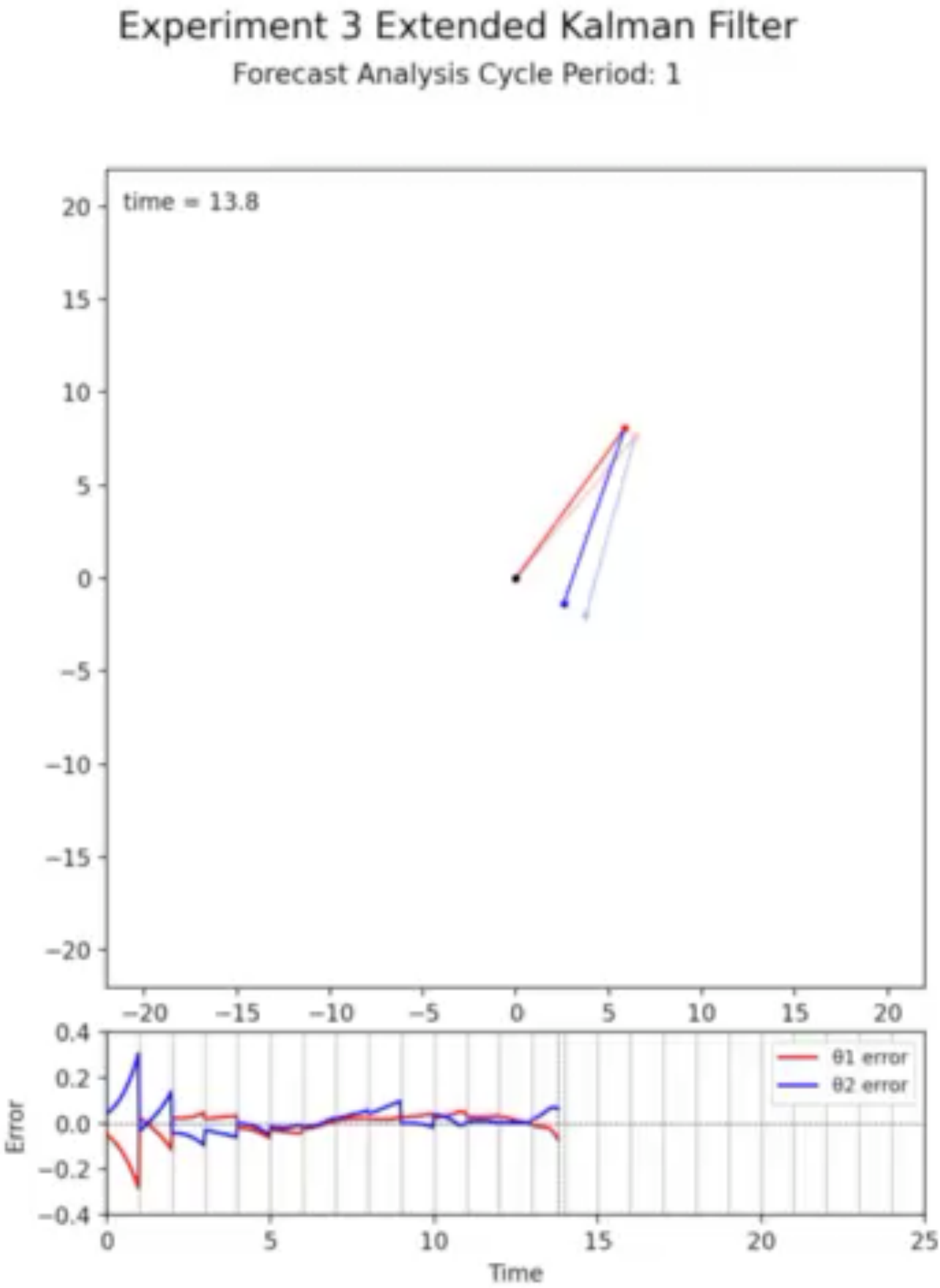
Experiment 3: Analysis vs Background



分析誤差相較於**背景誤差**改變了多少？

Experiment

Experiment 3: Extended Kalman Filter （每1秒分析一次，使用擴展卡爾曼濾波器）


Experiment 3 Extended Kalman Filter
Forecast Analysis Cycle Period: 1
time = 13.8
20
15
10
5
0
−5
−10
−15
−20
−20
−15
−10
−5
0
5
10
15
20
0.4
0.2
0.0
−0.2
−0.4
Error
θ1 error
θ2 error
0
5
10
15
20
25
Time

此實驗相較於觀測即分析時

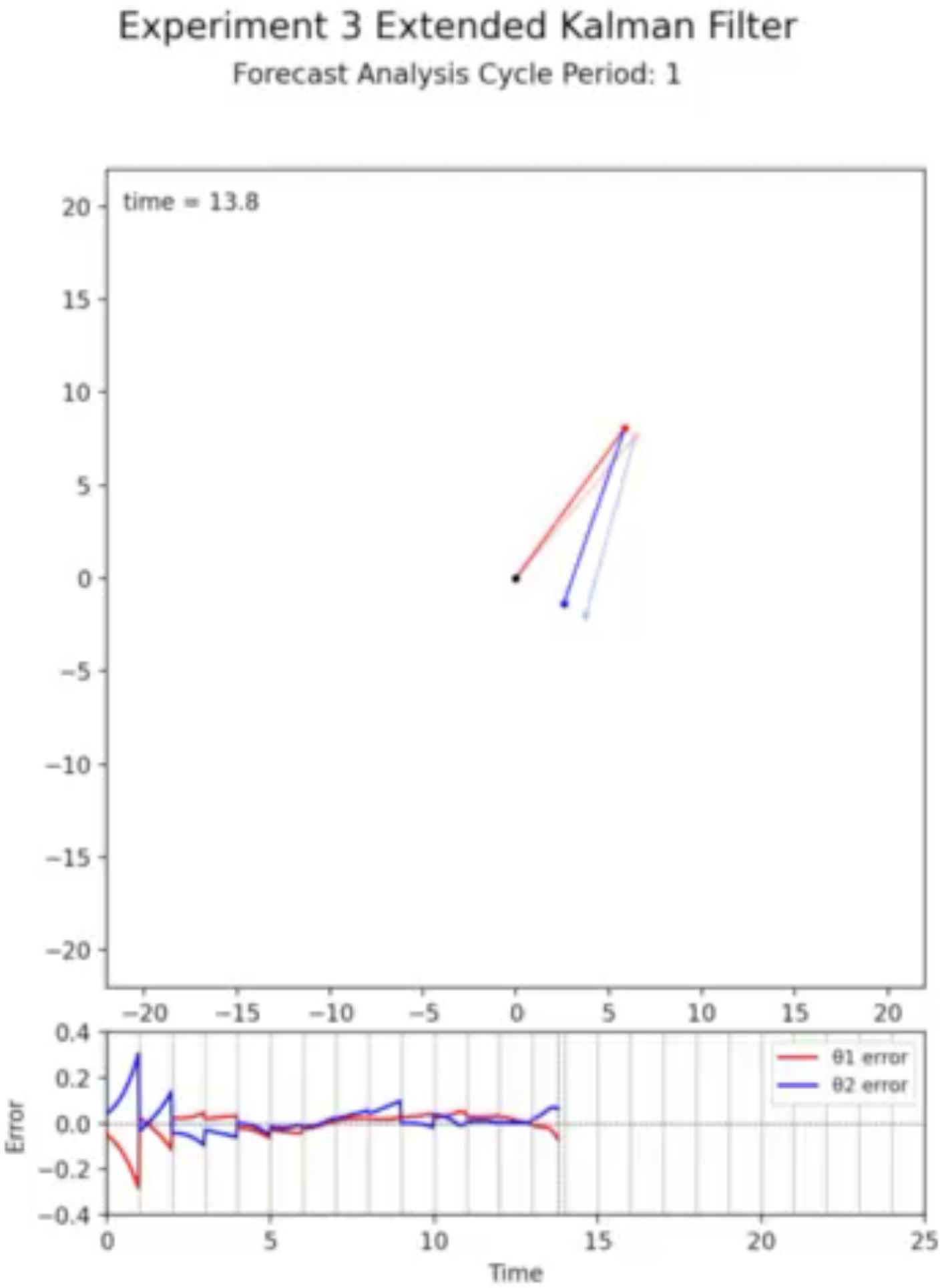
θ_1分析標準差：~~0.036~~1.613 (rad)

$\dot{\theta}_1$分析標準差：~~0.048~~2.210 (rad/s)

θ_2分析標準差：~~0.036~~1.624 (rad)

$\dot{\theta}_2$分析標準差：~~0.048~~2.457 (rad/s)

註：初始的$\mathbf{B} = \mathbf{R}$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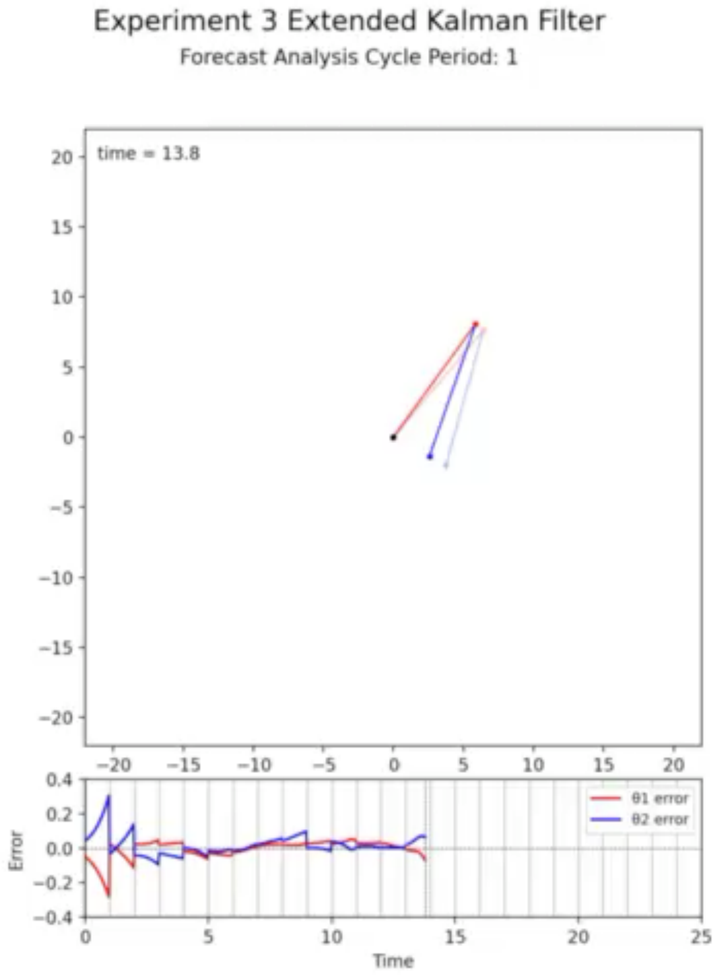
0
5
10
15
20
0.4
0.2
0.0
−0.2
−0.4
Error
θ1 error
θ2 error
0
5
10
15
20
25
Time

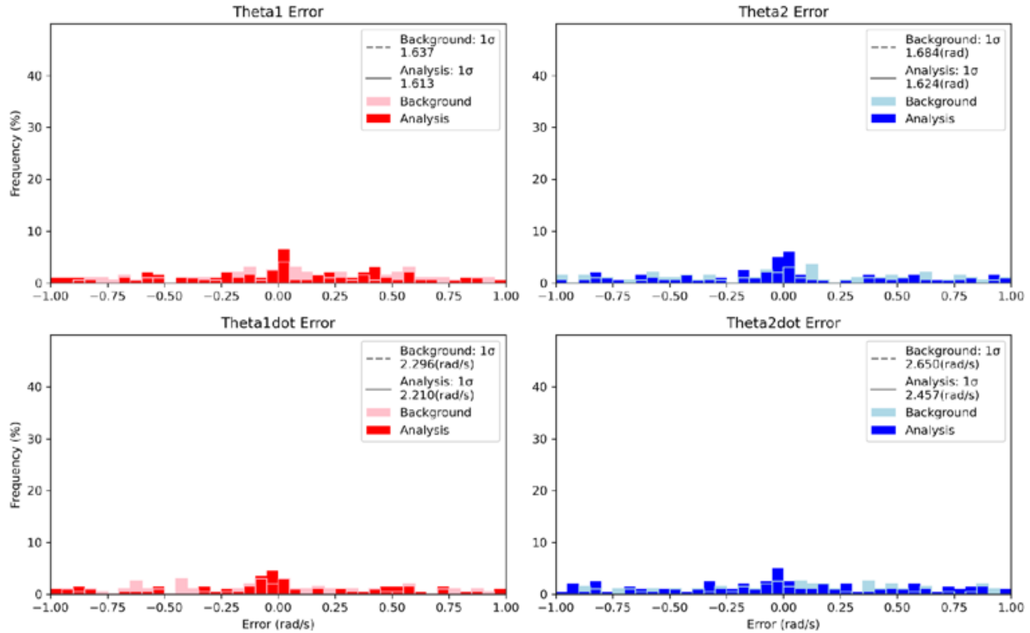
Experiment

Experiment 3: Extended Kalman Filter（每1秒分析一次，使用擴展卡爾曼濾波器）



註：初始的$\mathbf{B} = \mathbf{R}$

分析誤差相較於**背景誤差**改變了多少？



此實驗相較於**觀測即分析**時

θ_1分析標準差：~~0.036~~1.613 (rad)

$\dot{\theta}_1$分析標準差：~~0.048~~2.210 (rad/s)

θ_2分析標準差：~~0.036~~1.624 (rad)

$\dot{\theta}_2$分析標準差：~~0.048~~2.457 (rad/s)

Experiment

Experiment 3: Extended Kalman Filter（使用擴展卡爾曼濾波器）