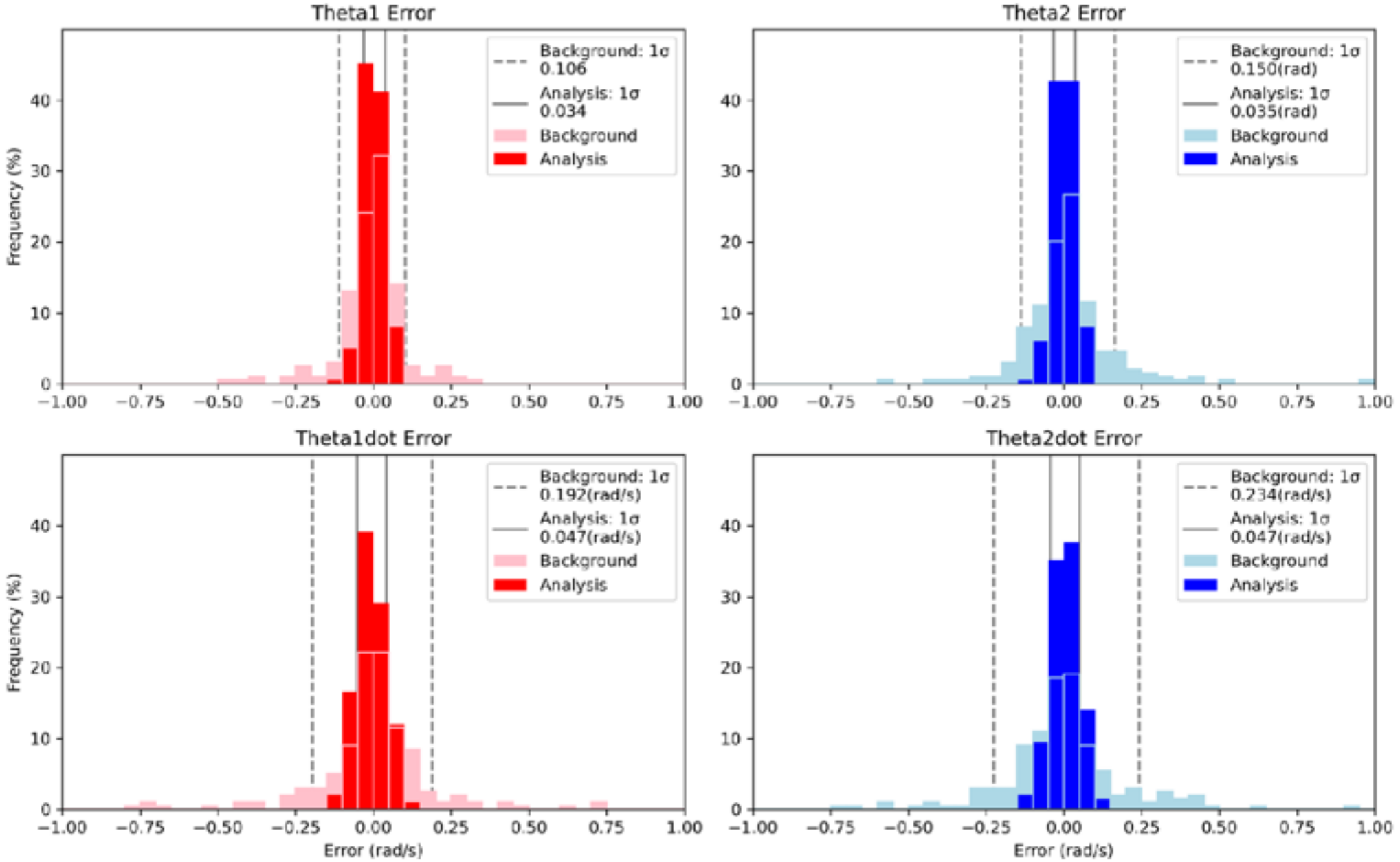
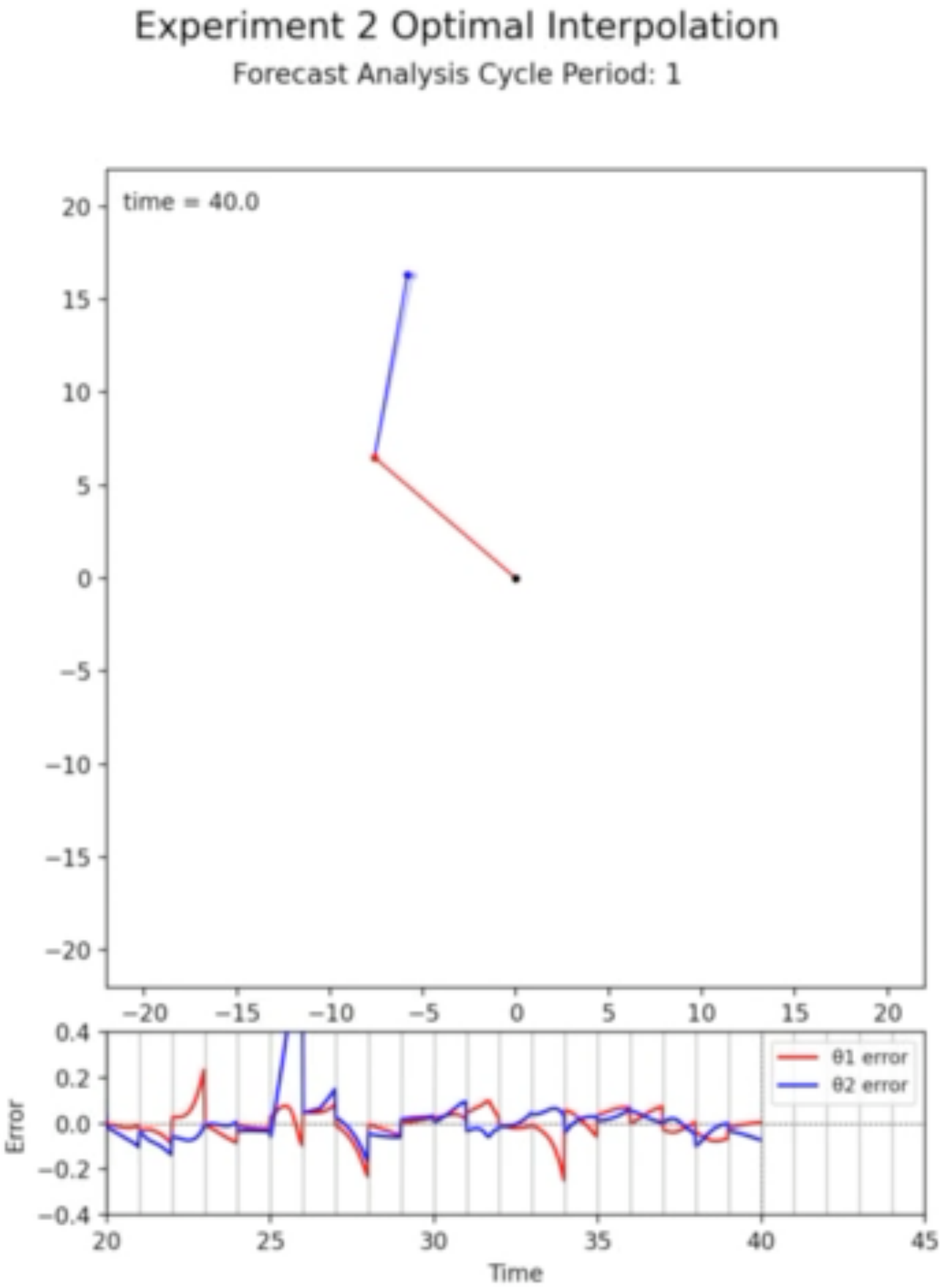
Experiment 2: Analysis vs Background



Experiment

Experiment 2: Optimal Interpolation（每1秒分析一次，最佳內插法）


Experiment 2 Optimal Interpolation
Forecast Analysis Cycle Period: 1
time = 40.0
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
20
25
30
35
40
45
Time

θ_1分析標準差：~~0.036~~0.034 (rad)

$\dot{\theta}_1$分析標準差：~~0.048~~0.047 (rad/s)

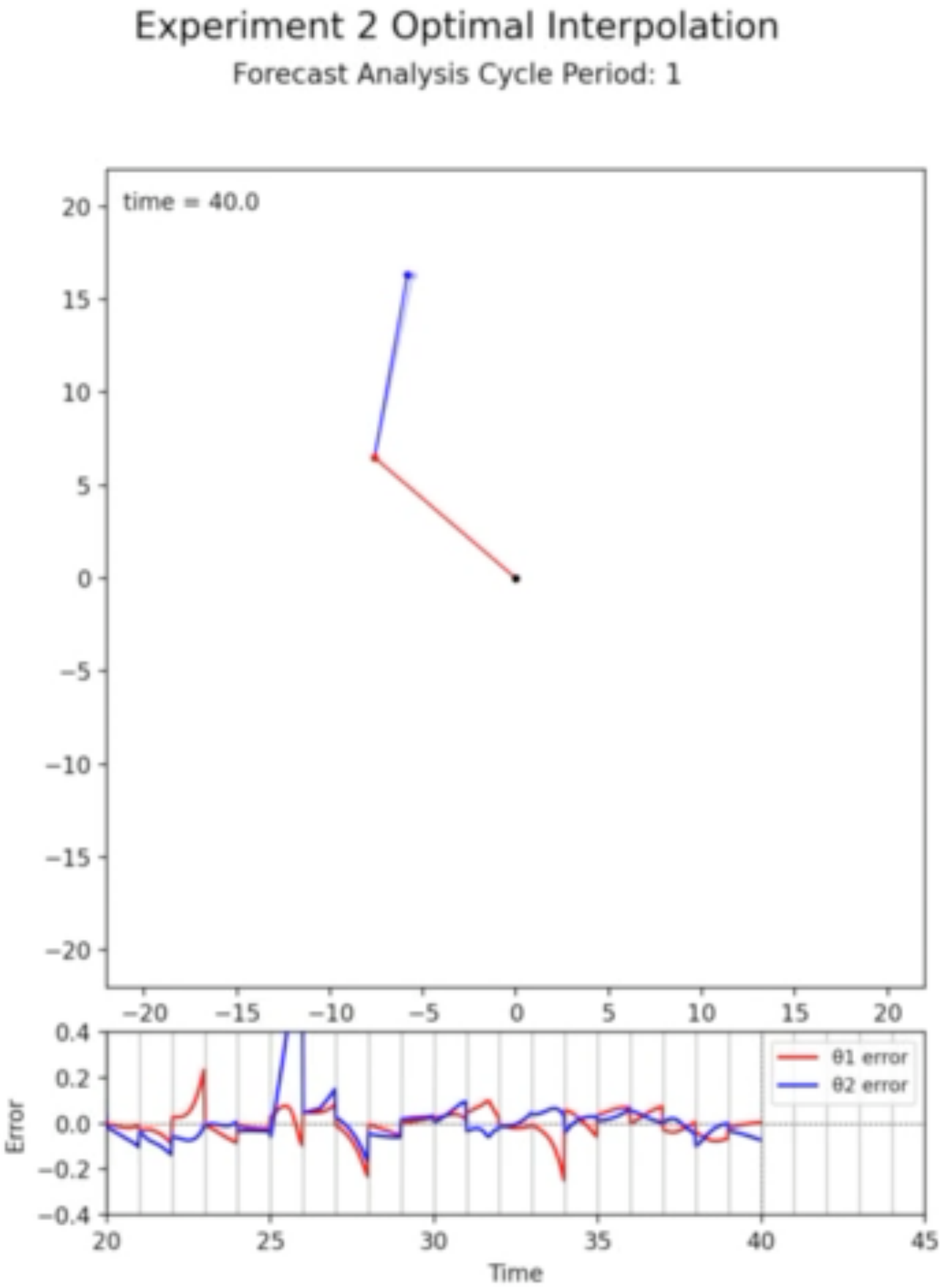
θ_2分析標準差：~~0.036~~0.035 (rad)

$\dot{\theta}_2$分析標準差：~~0.048~~0.047 (rad/s)

註：**B**的計算方法為，**B=R**，後經不斷與真值比較並迭代出收斂的**B**

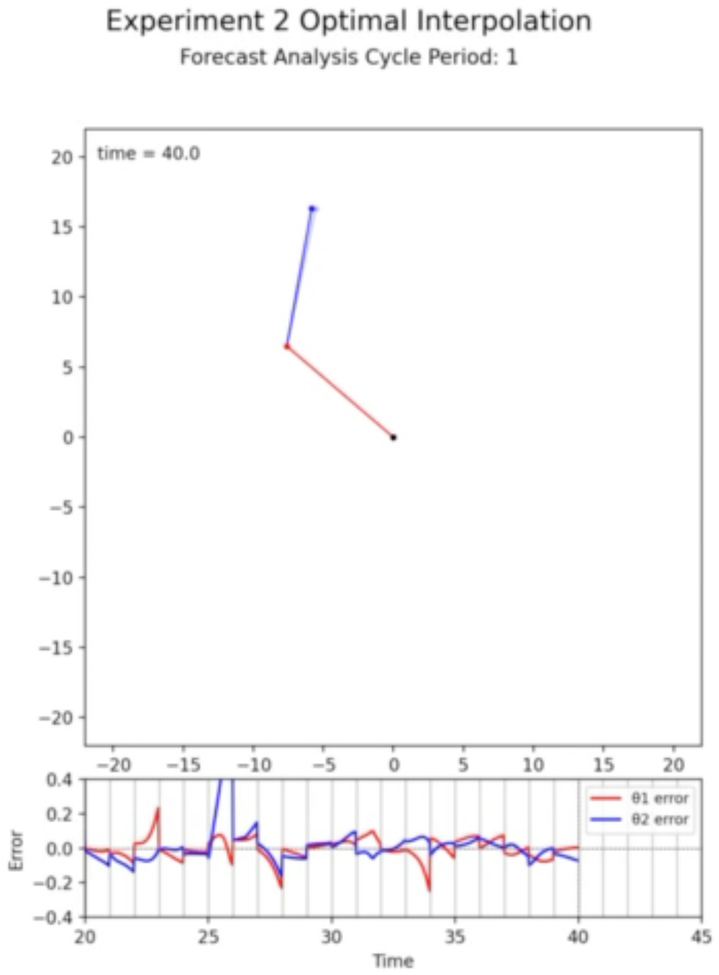
分析誤差相較於**背景誤差**改變了多少？

此實驗相較於觀測即分析時


Experiment 2 Optimal Interpolation
Forecast Analysis Cycle Period: 1
time = 40.0
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
20
25
30
35
40
45
Time

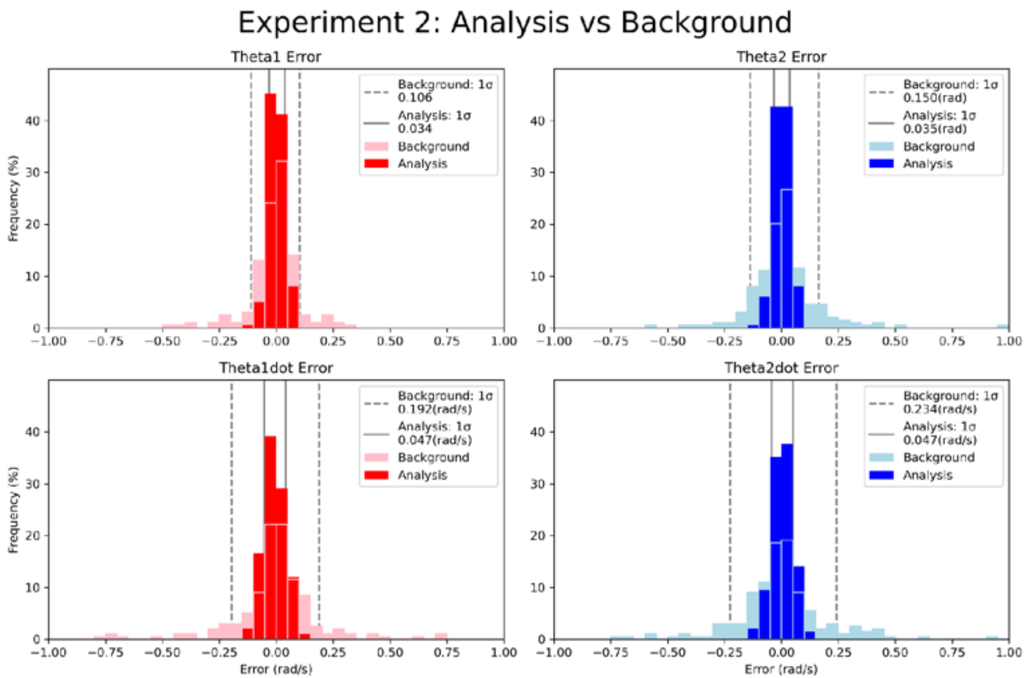
Experiment

Experiment 2: Optimal Interpolation（每1秒分析一次，最佳內插法）



註：**B**的計算方法為，**B=R**，後經不斷與真值比較並迭代出收斂的**B**

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~~0.034 (rad)

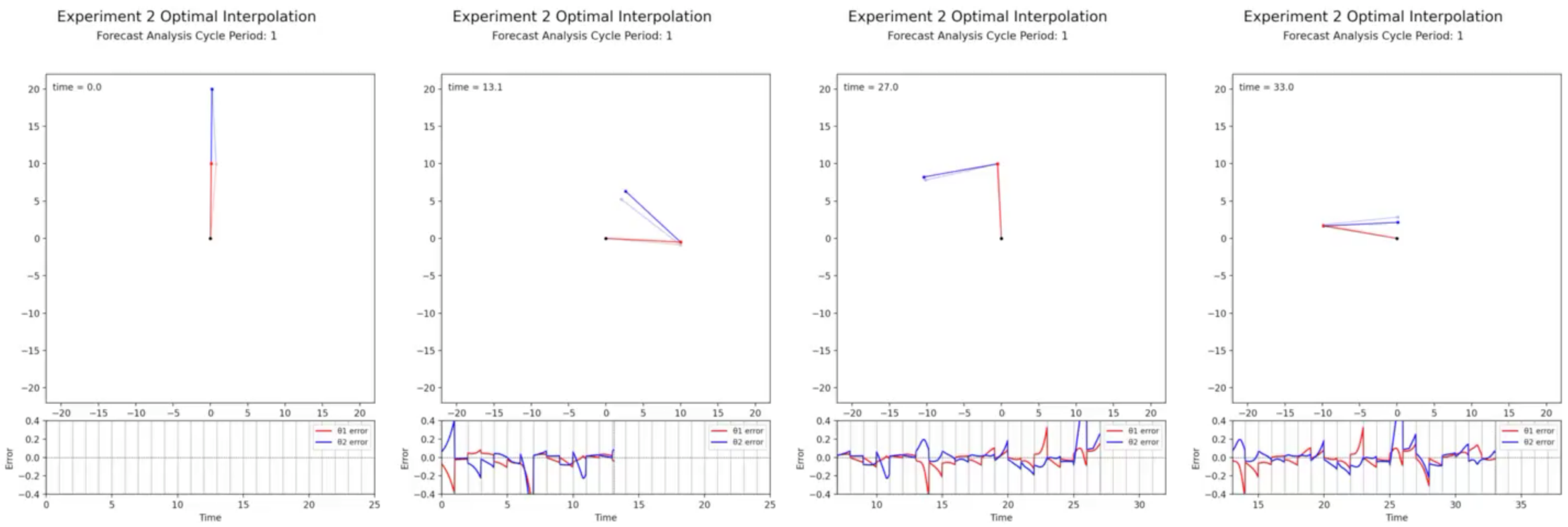
$\dot{\theta}_1$分析標準差：~~0.048~~0.047 (rad/s)

θ_2分析標準差：~~0.036~~0.035 (rad)

$\dot{\theta}_2$分析標準差：~~0.048~~0.047 (rad/s)

Experiment

Experiment 2: Optimal Interpolation（每1秒分析一次，最佳內插法）



擺得慢時，背景誤差大；擺得快時，背景誤差小！

背景誤差共變異數矩陣 **B** 不應是定值！