

# FOC Test Report: demo\_adaptive\_load\_step

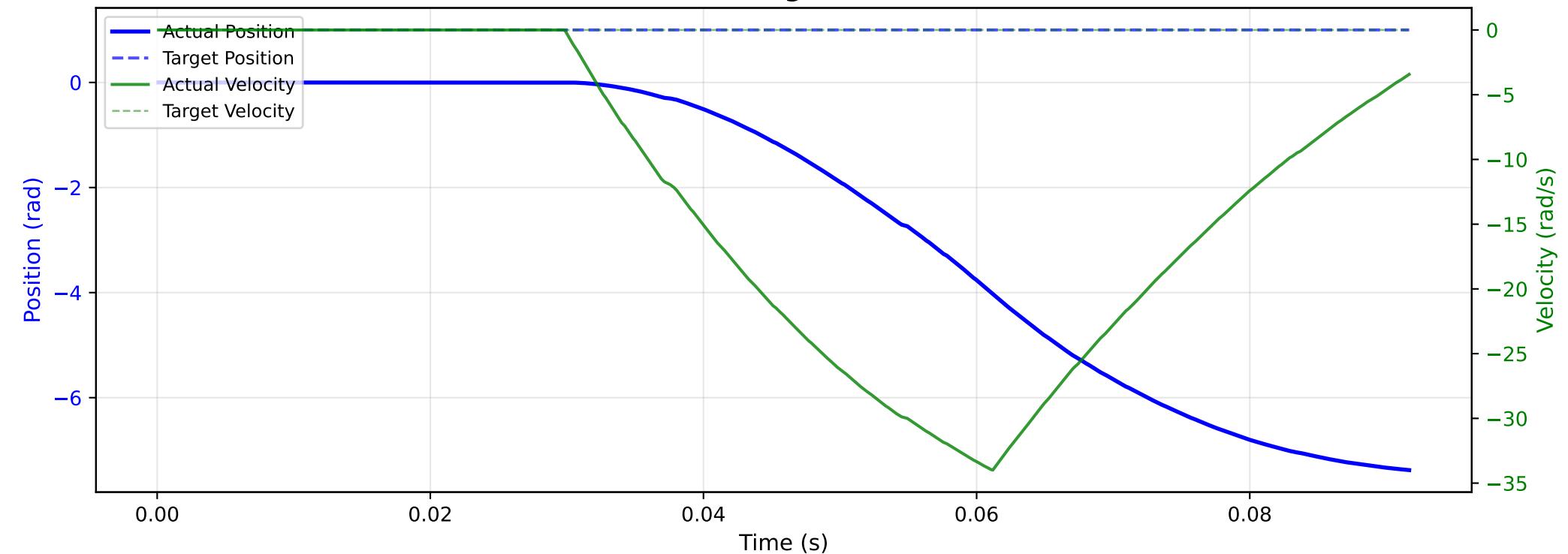
Test Name: demo\_adaptive\_load\_step  
Platform: Remode STM32G431CB  
Firmware: iRPC v2.0  
Start Time: 2025-10-10 14:47:04

Samples Collected: 600  
Test Duration: 0.092 s

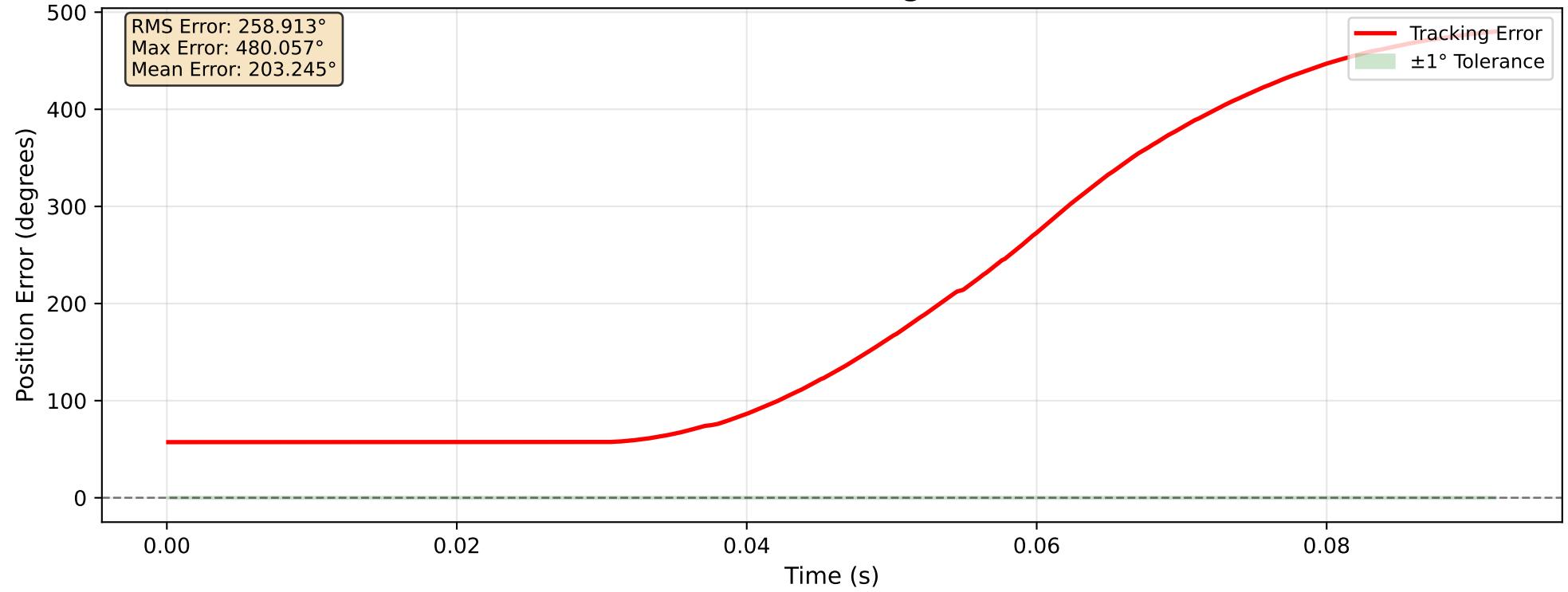
## Performance Summary:

Position Range: [-7.379, 0.000] rad  
Position Std Dev: 2.799 rad  
Max Velocity: 0.004 rad/s  
Peak Current ( $I_q$ ): 0.94 A  
Mean Current ( $I_q$ ): 0.43 A

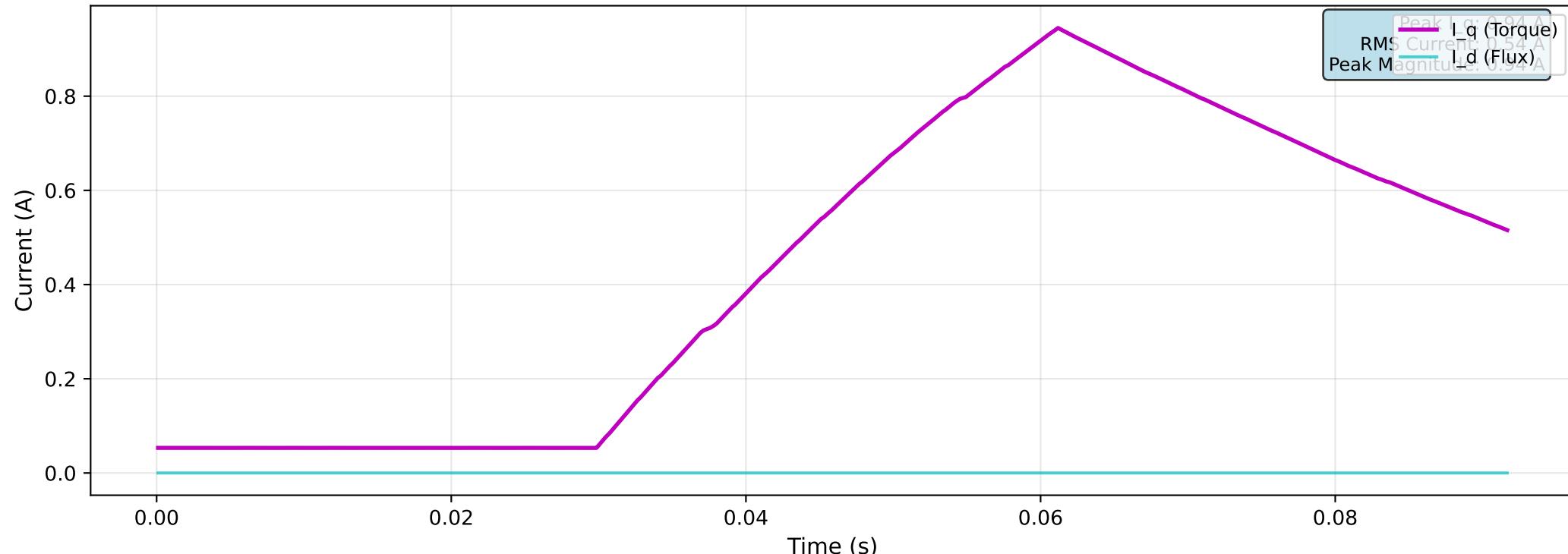
## Motion Tracking Performance



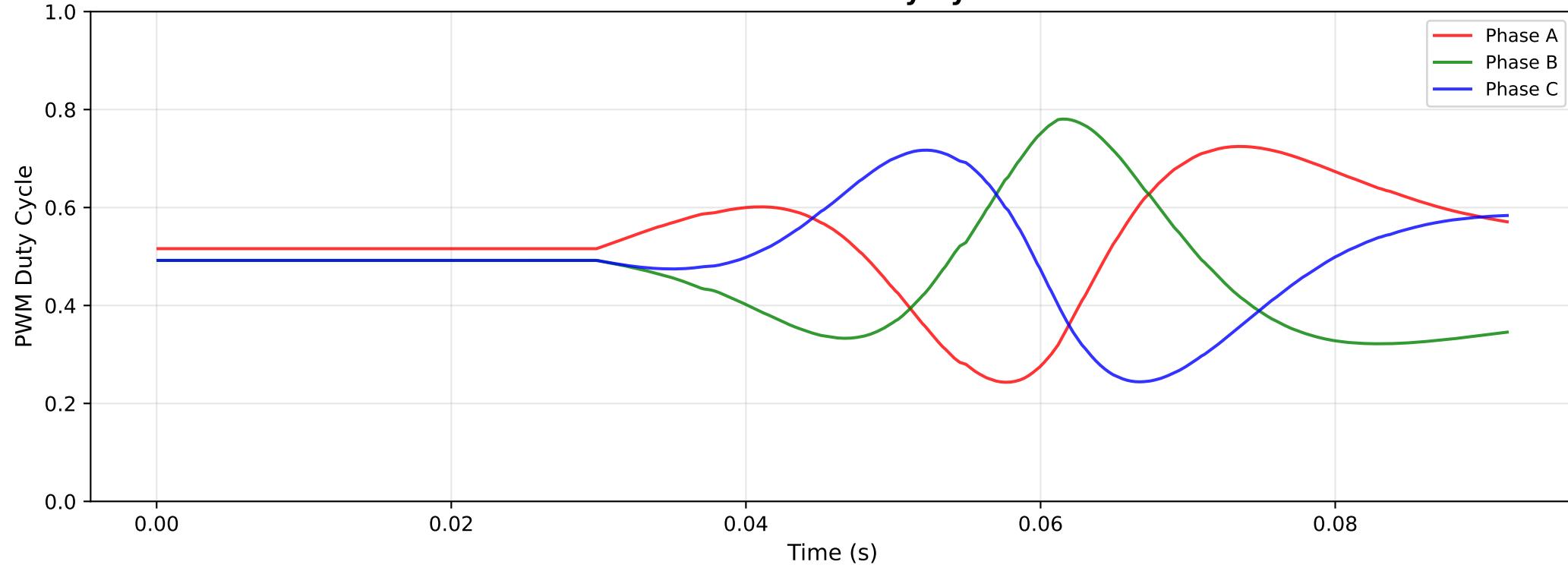
## Position Tracking Error



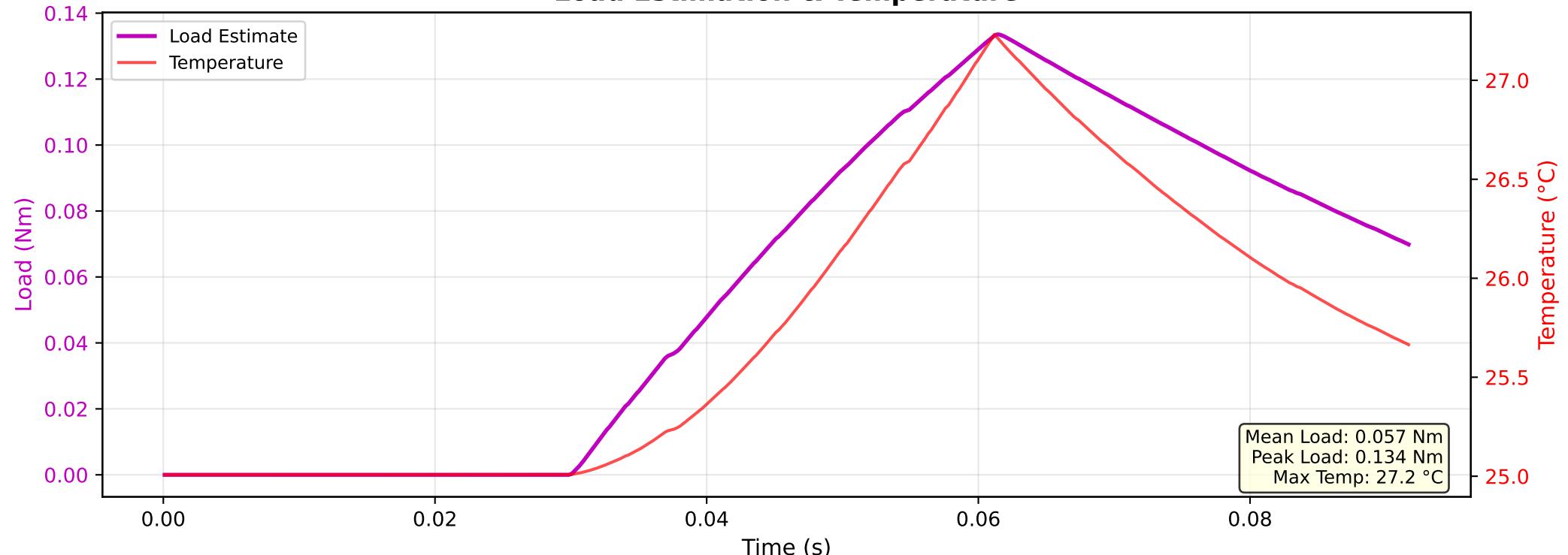
## FOC d-q Axis Currents



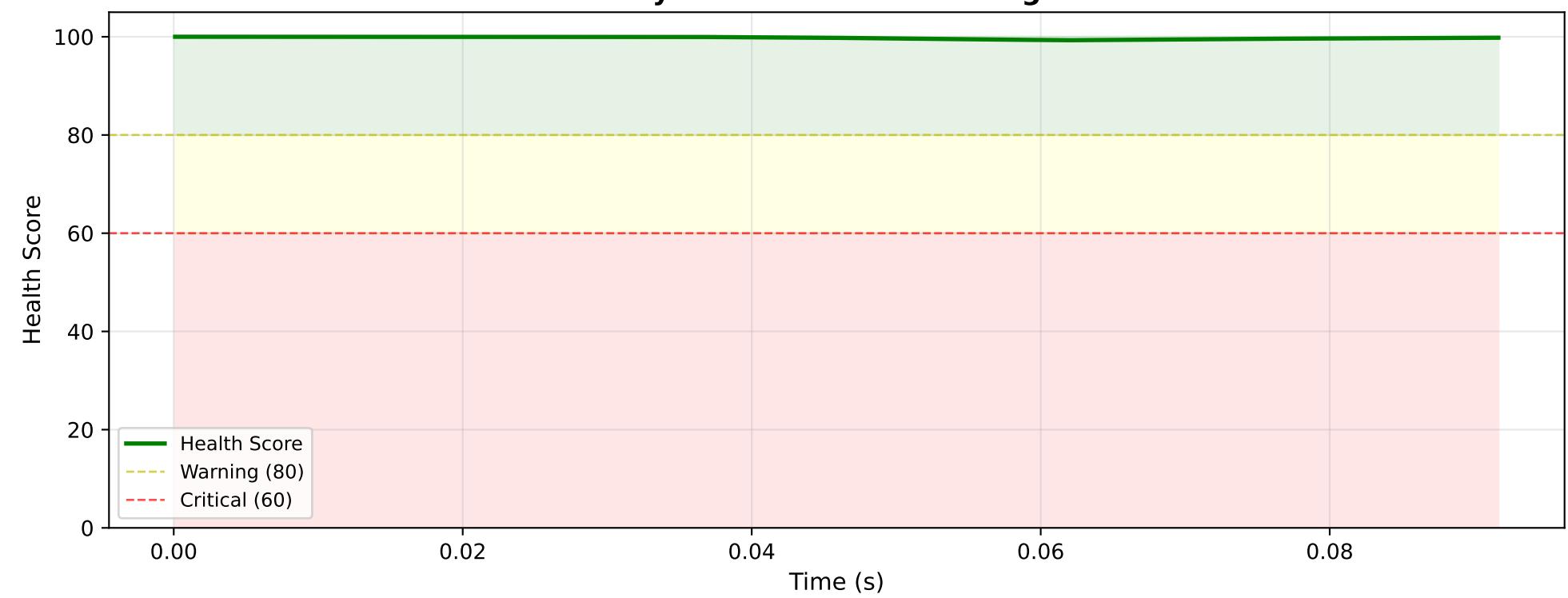
## 3-Phase PWM Duty Cycles



## Load Estimation & Temperature



## System Health Monitoring



# Phase Diagram (Position-Velocity)

