

Abstract:

In this project, MATLAB Simulink output an voltage signal to ADuC7026 platform. After the A/D signal sampling, ADuC7026 will output two PWM signals to two Electronic Speed Controls, which will motivate two motors whose function is control the speed of propellers. There are two feedback signals, angle signal and angle acceleration signal respectively. The feedback signals will be processed by PCI1711, then be transported to MATLAB Simulink.

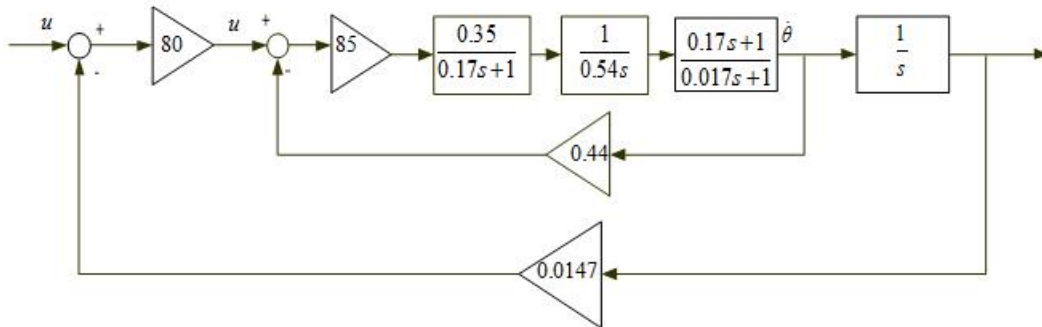


Figure 1 Block diagram of double closed-loop control feedback

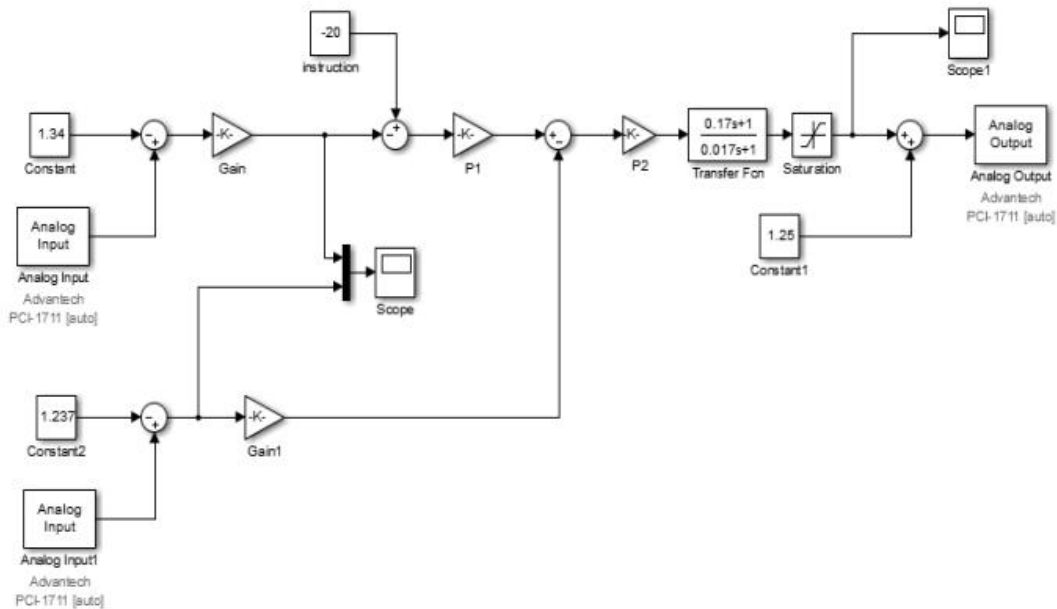


Figure 2 Double closed-loop control feedback system realized by MATLAB Simulink

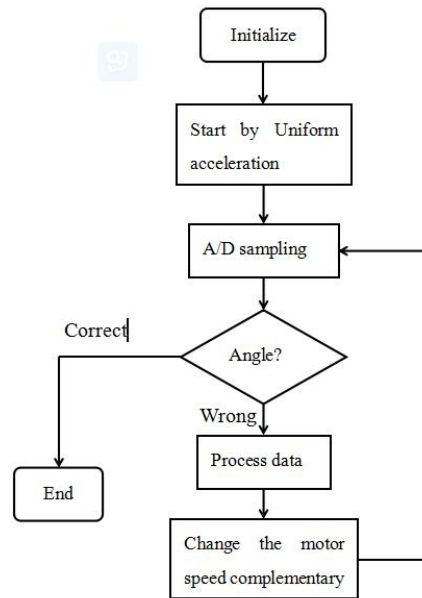


Figure 3 Flow graph of software engineering - ADuC7026 programming



Figure 4 Demonstration of the two propellers system