Lab3

Exercise 1

No	Controller Tuning Criterion	Steady-state error	Overshoot	Settling Time	Control signal variation (abs(value_min-value_max))
1	C-H-R 1 - P	0	43.7	119	0.32
2	C-H-R 1 -PI	0	115	491	0,96
3	C-H-R 1 -PID	0	113.42	529	720
4	C-H-R 2 -P	0	43,7	119	0,36
5	C-H-R 2 -PI	0	96	215	0,83
6	C-H-R 2 -PID	0	115.81	196	1000

Exercise 2

Simulink model with tuned values is in *Lab3_exercise2.slx* with the accompanying calculation is *Lab_3_script.m* last section titled *%%exercise 2*.

Lab 4

Exercise 1

No	Digital Controller	Steady State Error	Overshoot	Settling Time	Control Signal Variation
1	Dahlin Tuned Digital Controller	0	5.22	1371	-15.5 14.5
2	Dahlin controller that eliminates the ringing effec	0	3.41	764	-3.5 4
3	Saturated Dahlin controller that eliminates the ringing effect	0	3.58	1846.9	0 0.6

The source code for the exercises can be seen at: https://github.com/SandorKelemen/IPC-Lab