**Practice**

1. Objective and Task of the experiment:
2. Master the current loop of the DC motor
3. Understanding Dual-loop control of the DC motor
4. Experimental instruments, equipment and materials
5. Windows PC with Matlab2024
6. Control principle test board
7. Question
8. Implement a speed-position loop in Simulink and adjust the PI parameters to test its step response.

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| Simulink Code: |
| Step Response: |

1. Derivate the transfer function of the motor, the system input is voltage and the output is speed. Then get bode diagram of the system. And analyze the reasons why it doesn’t match the formula.

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| Bode: |
| Analysis: |