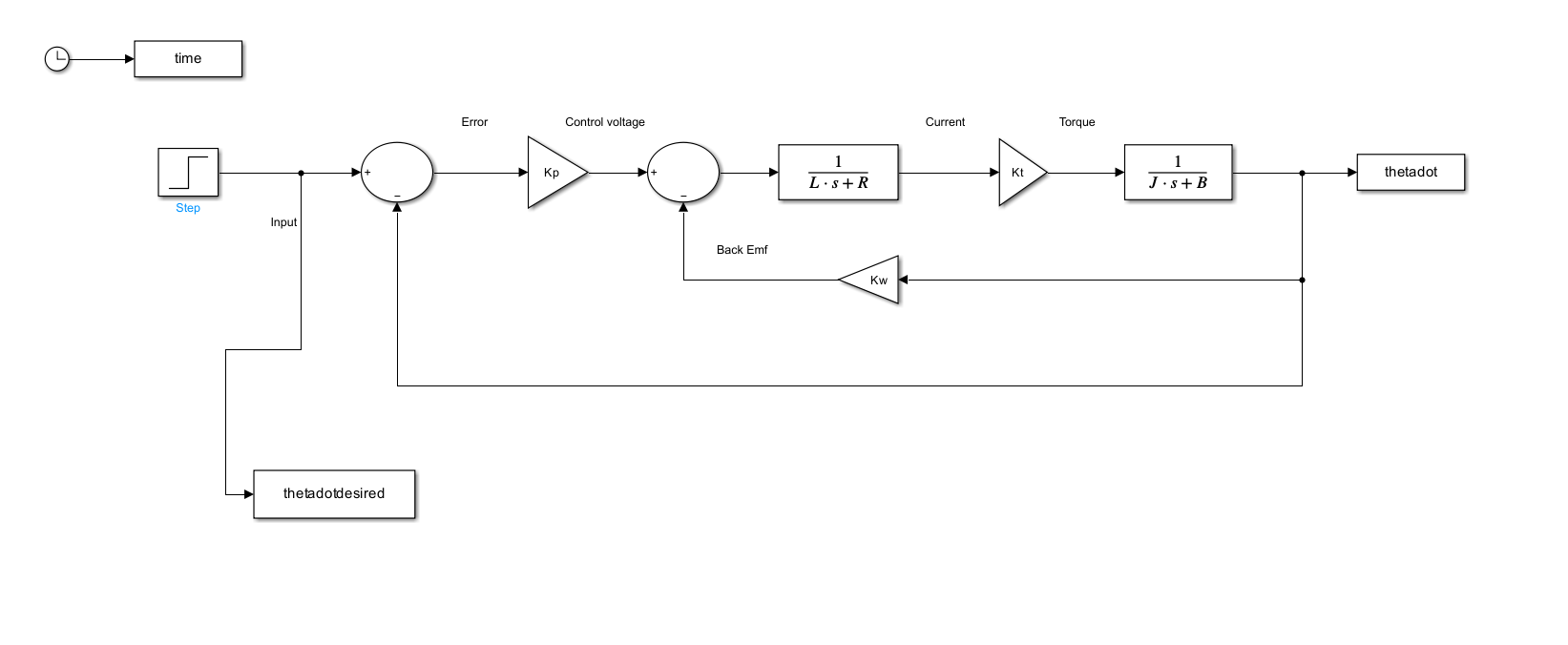
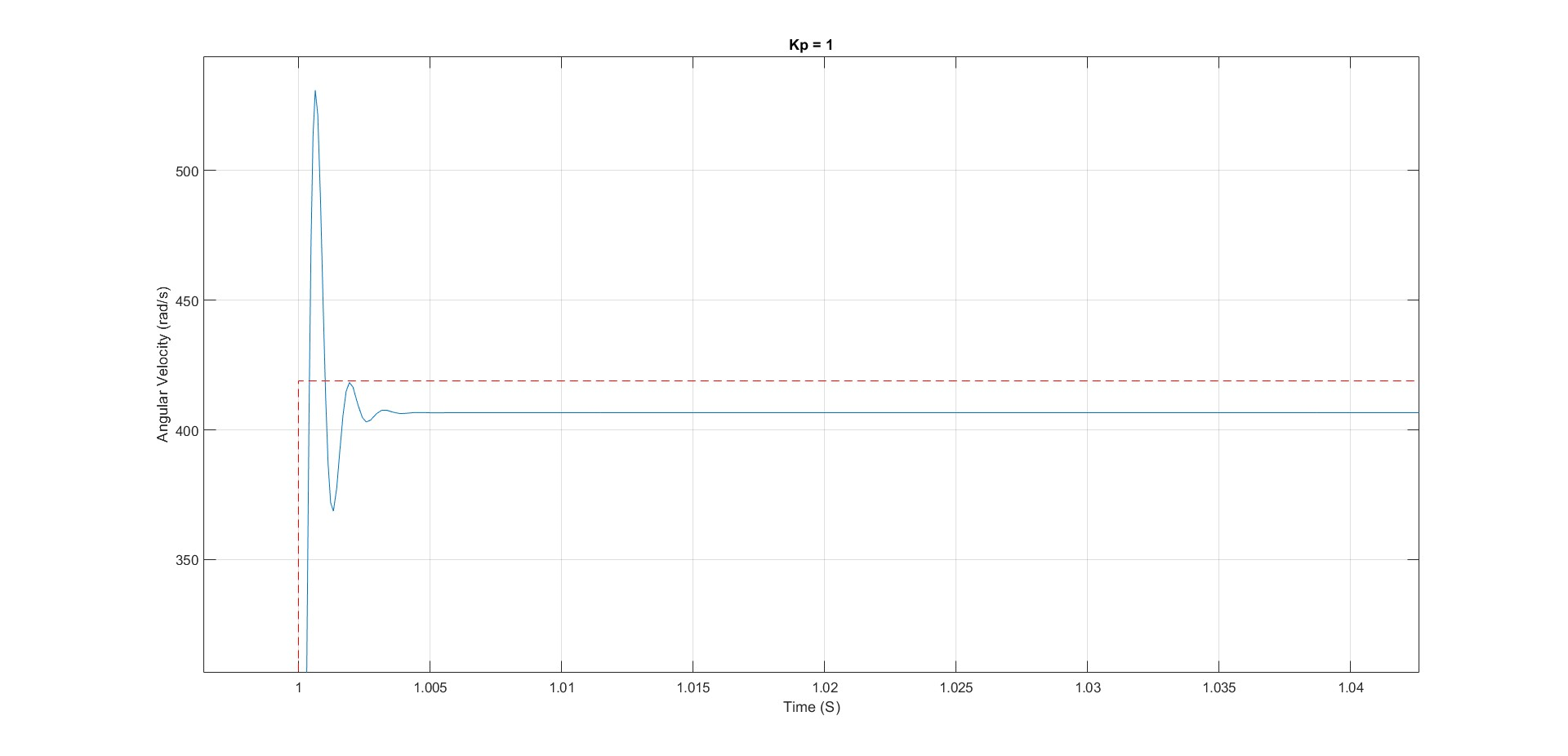
**Mechatronics Assignment – Introduction to Simulink**

**Simulink model 2nd order system based on controlling the velocity of a motor**

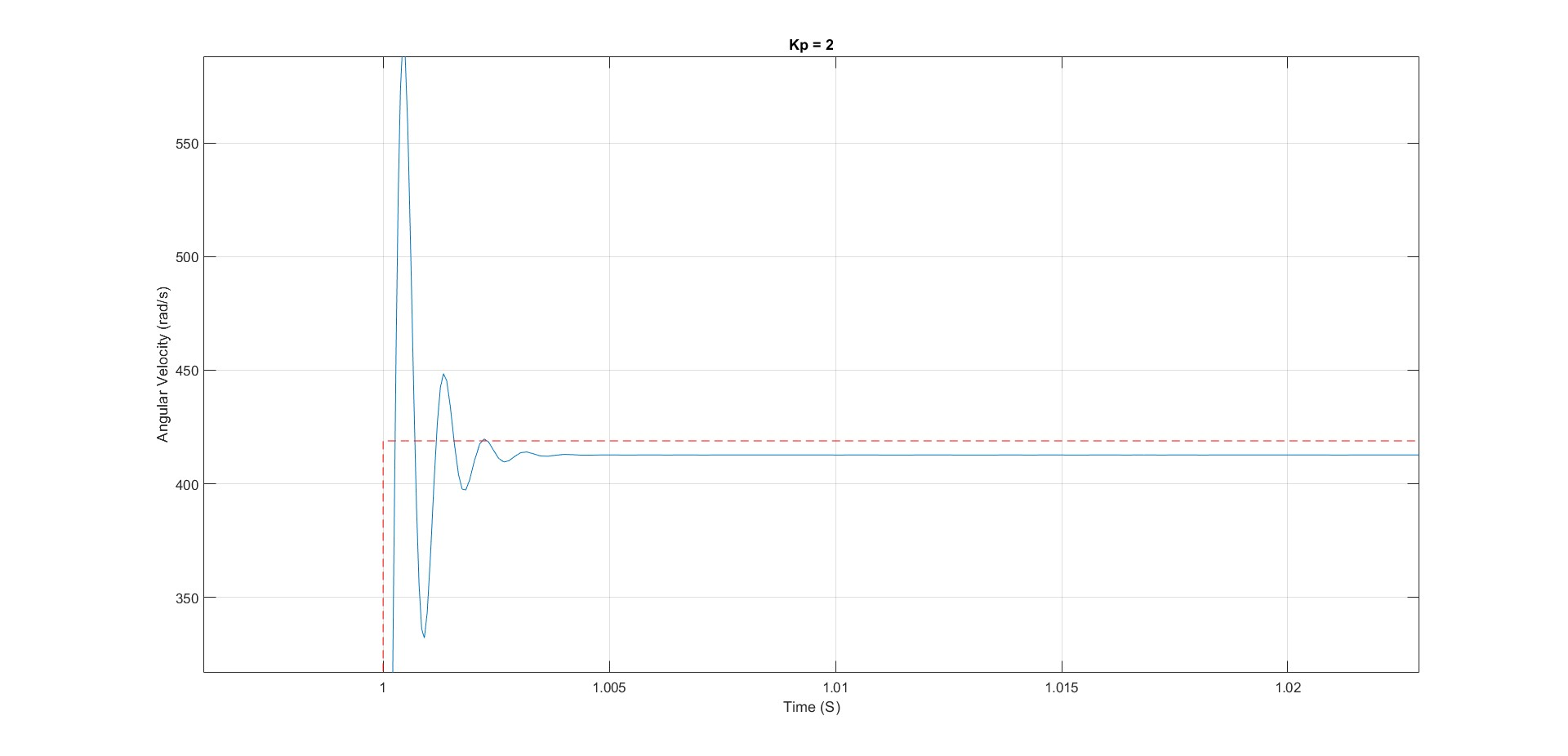
1. **Model with Step Response**



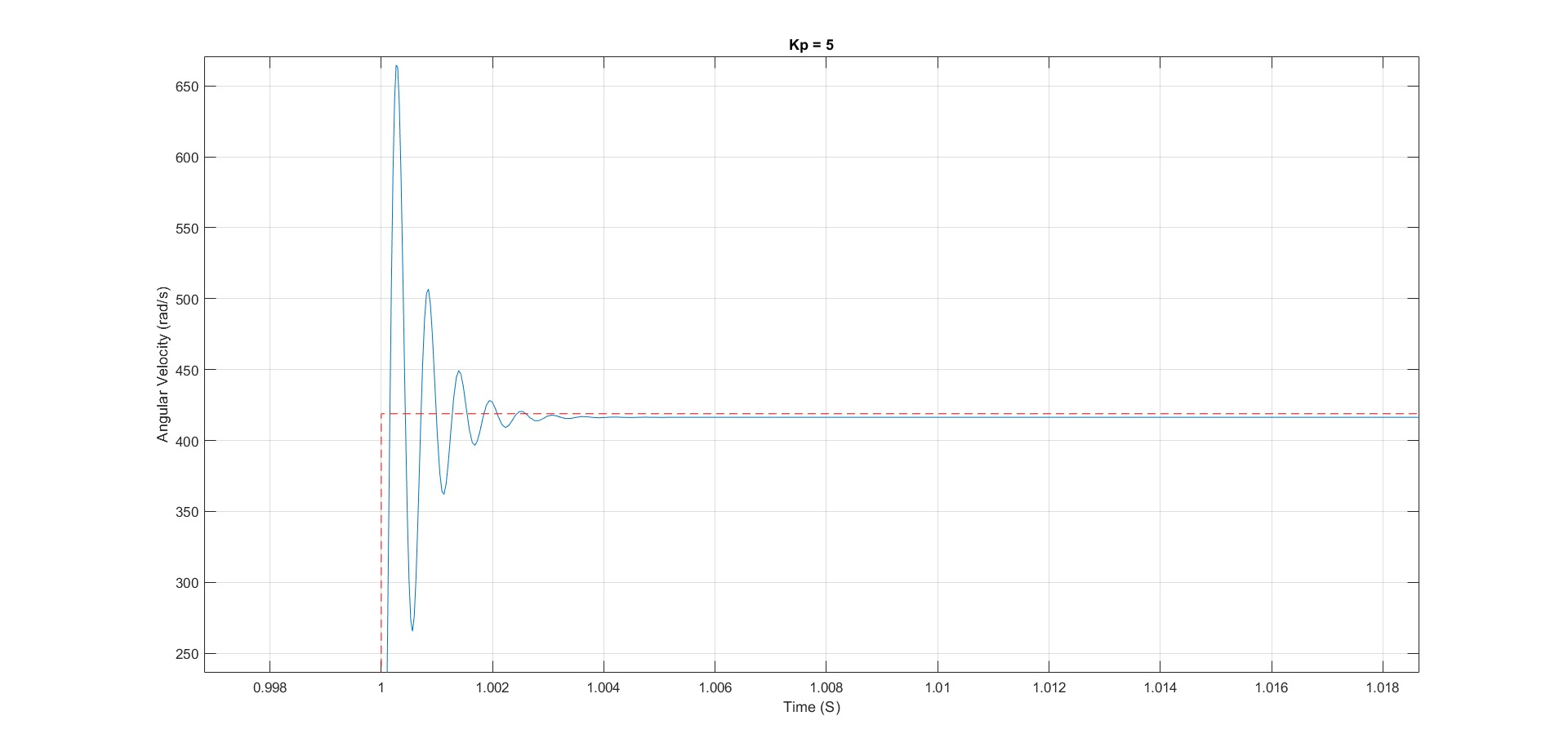
**Kp = 1**



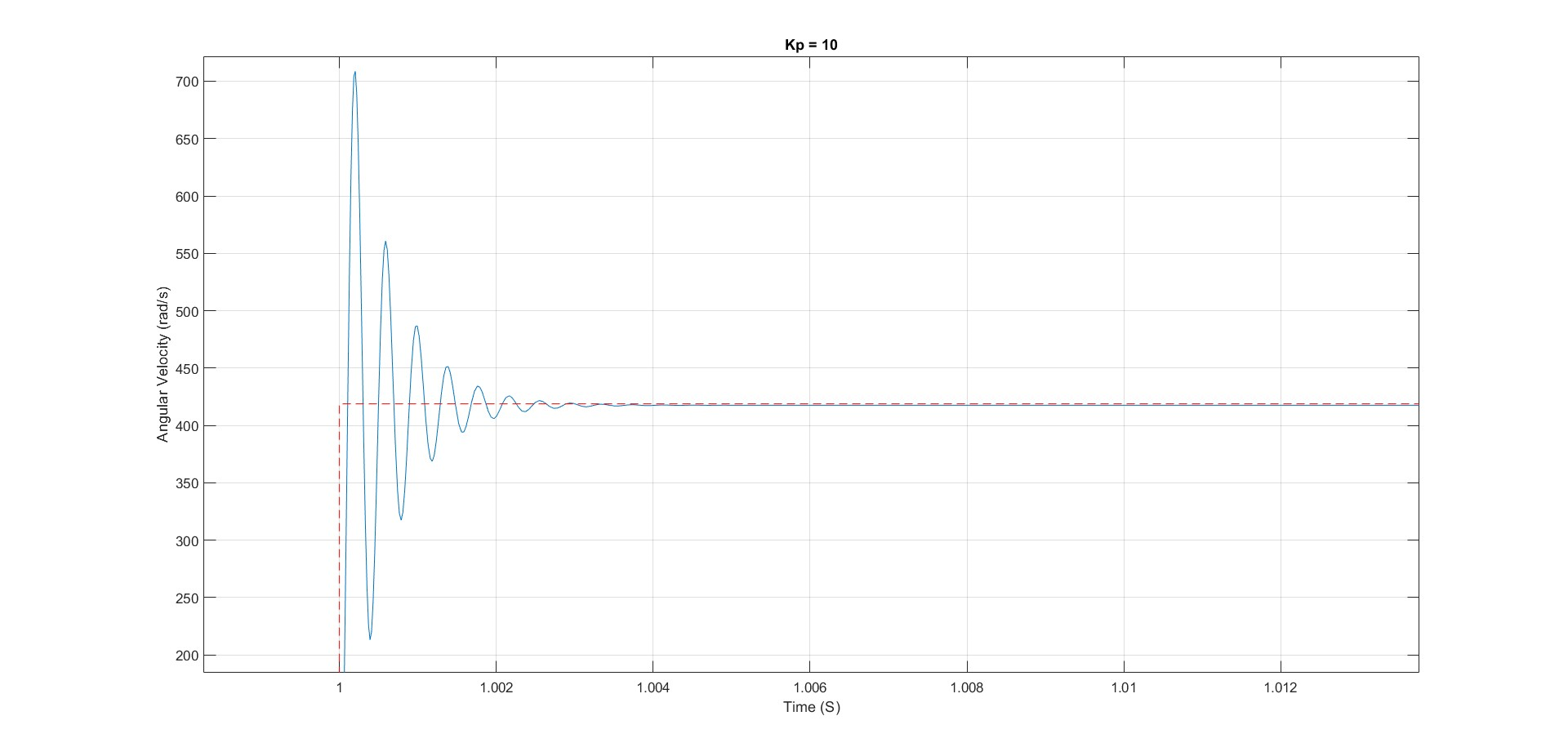
**Kp = 2**



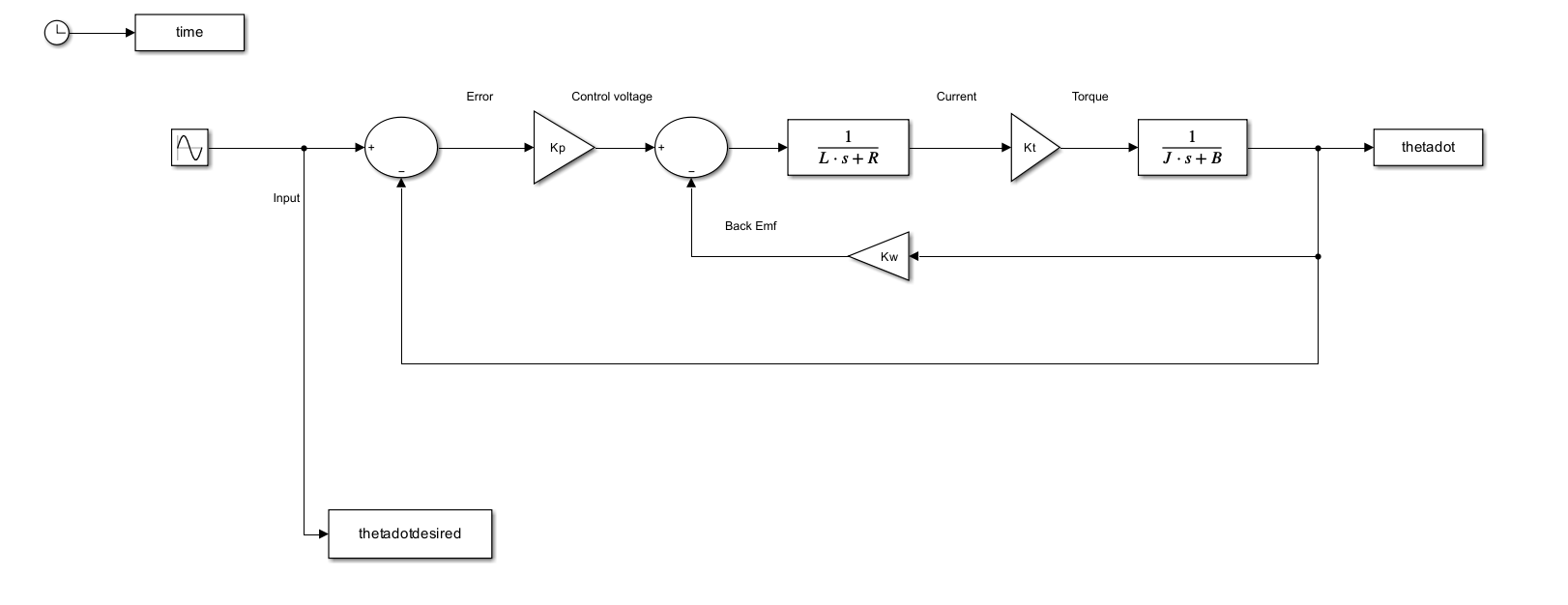
**Kp = 5**



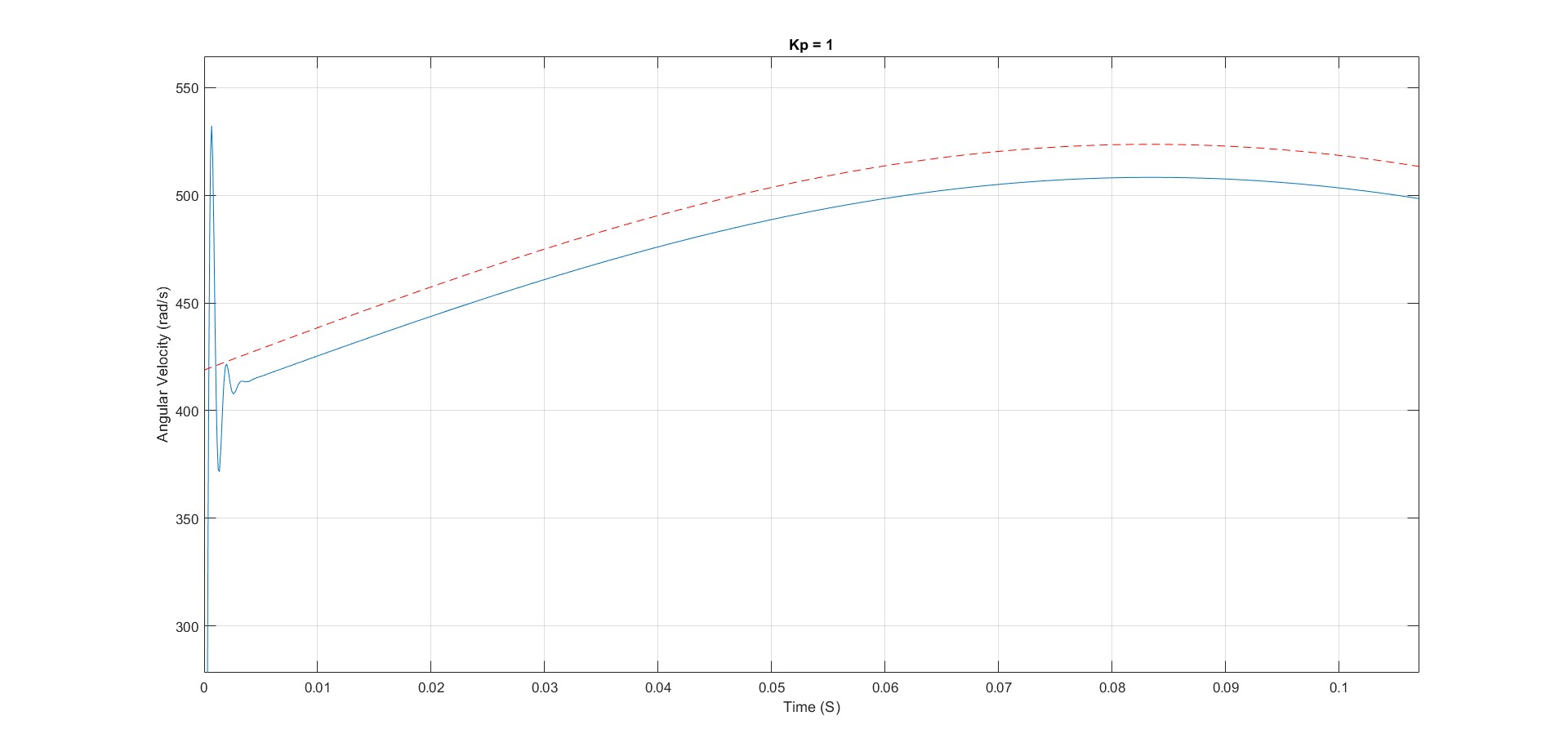
**Kp = 10**



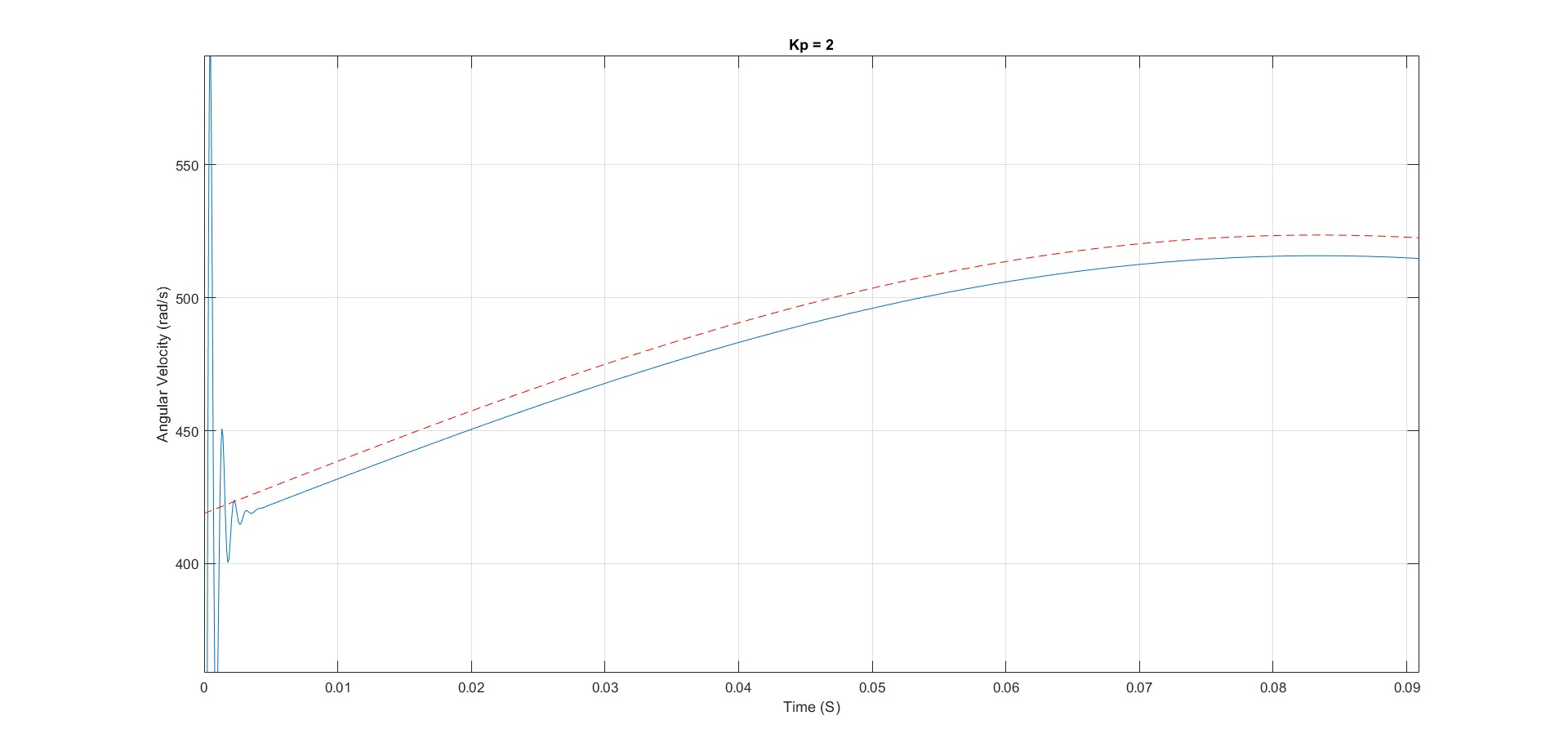
1. **Model with Sinusoidal Response**

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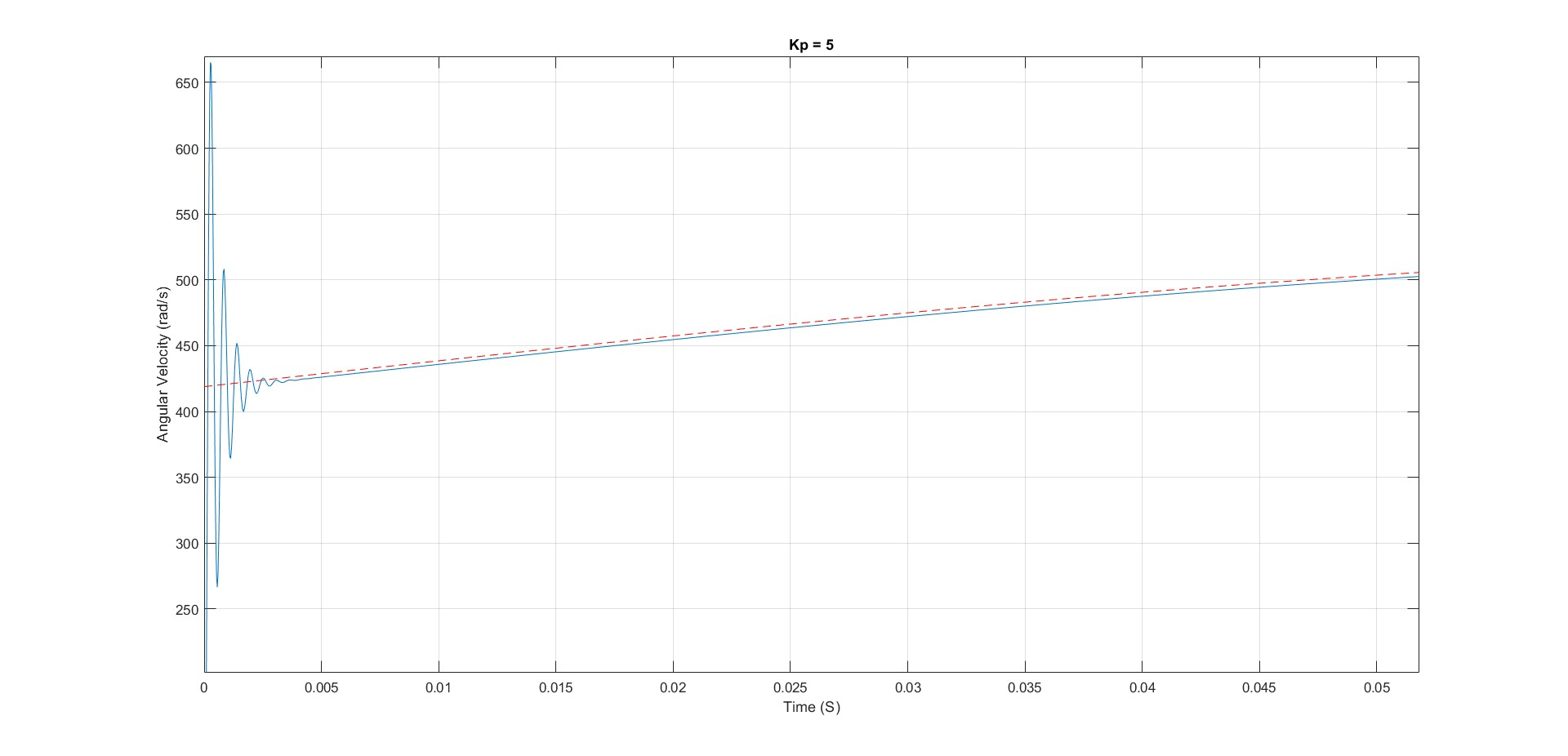
**Kp = 1**



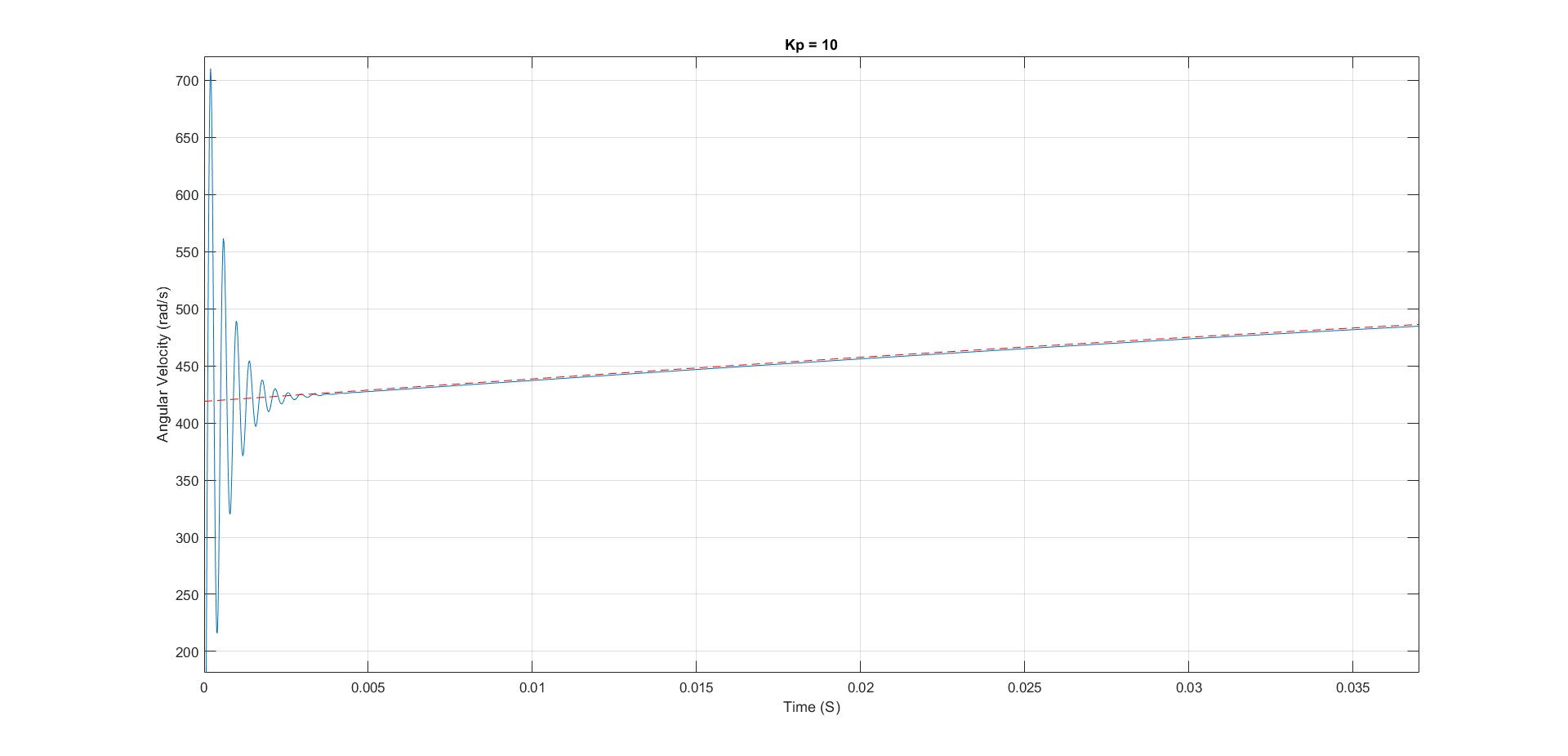
**Kp = 2**



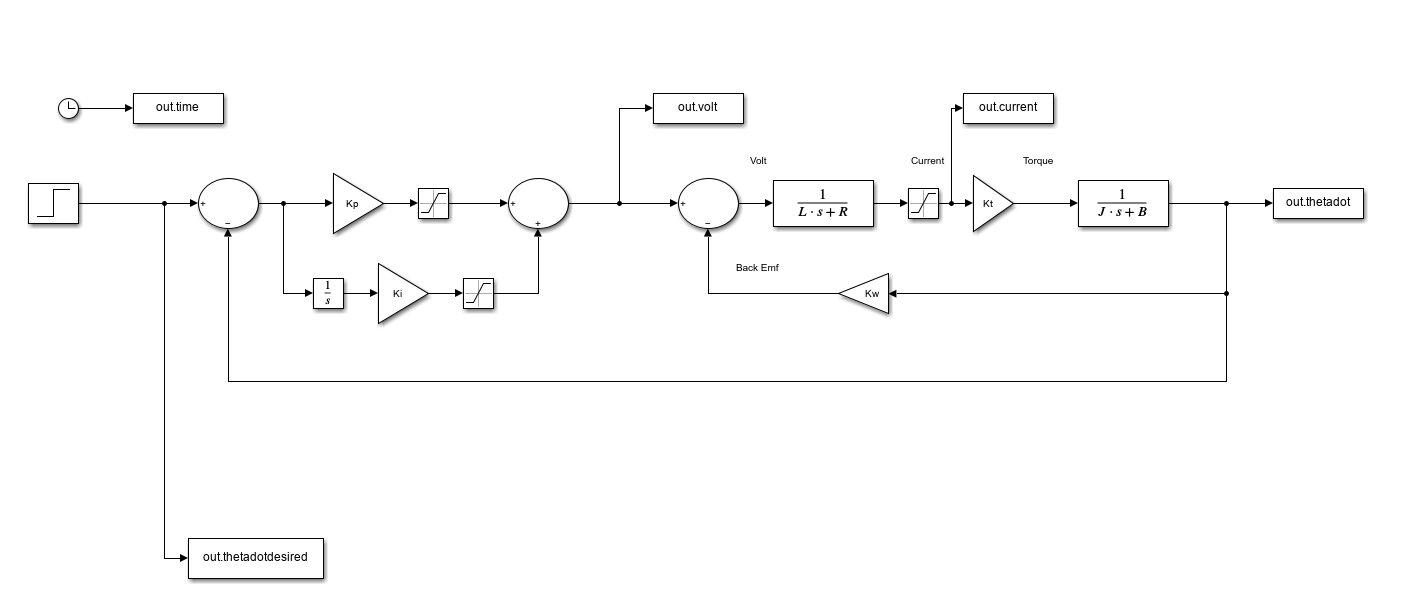
**Kp = 5**

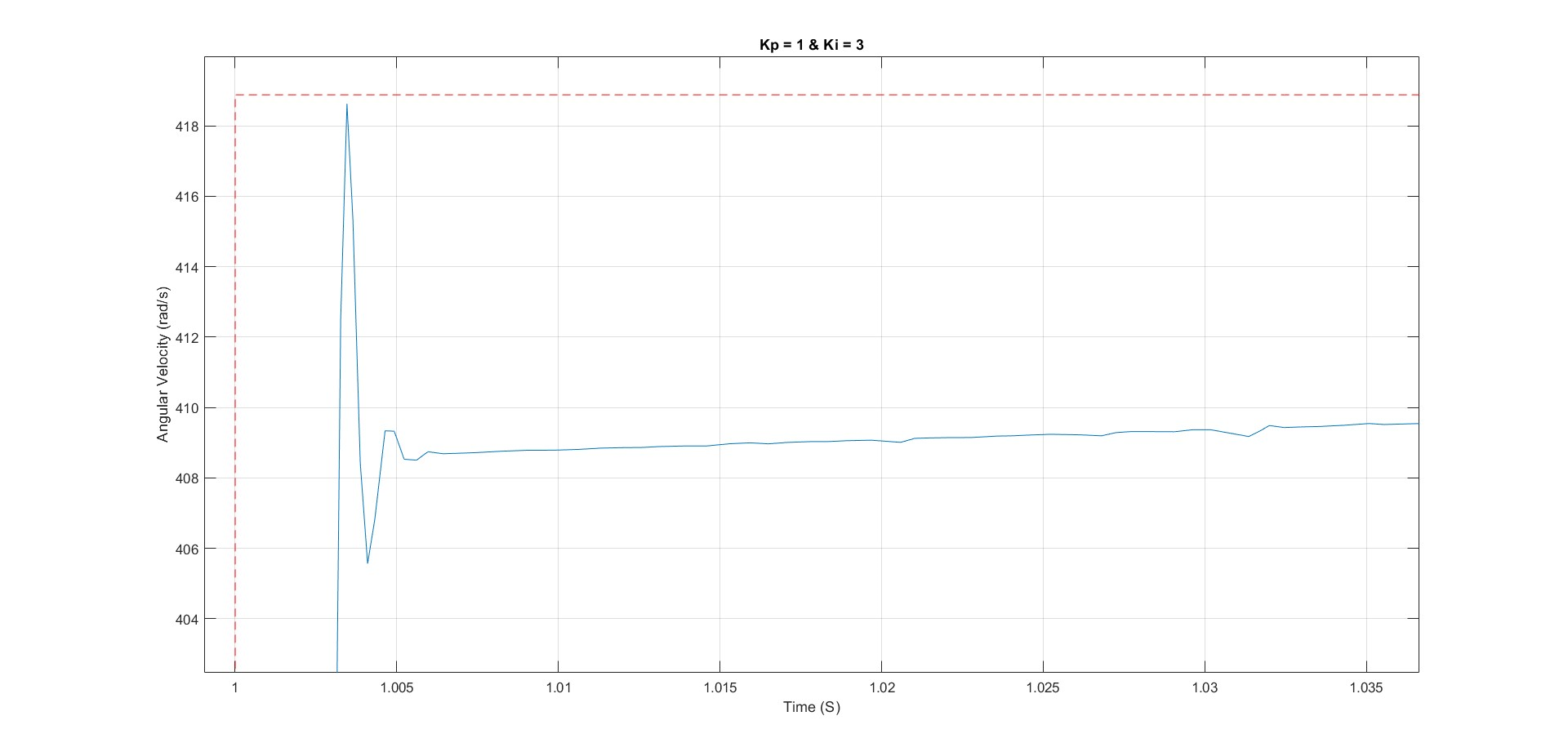


**Kp = 10**

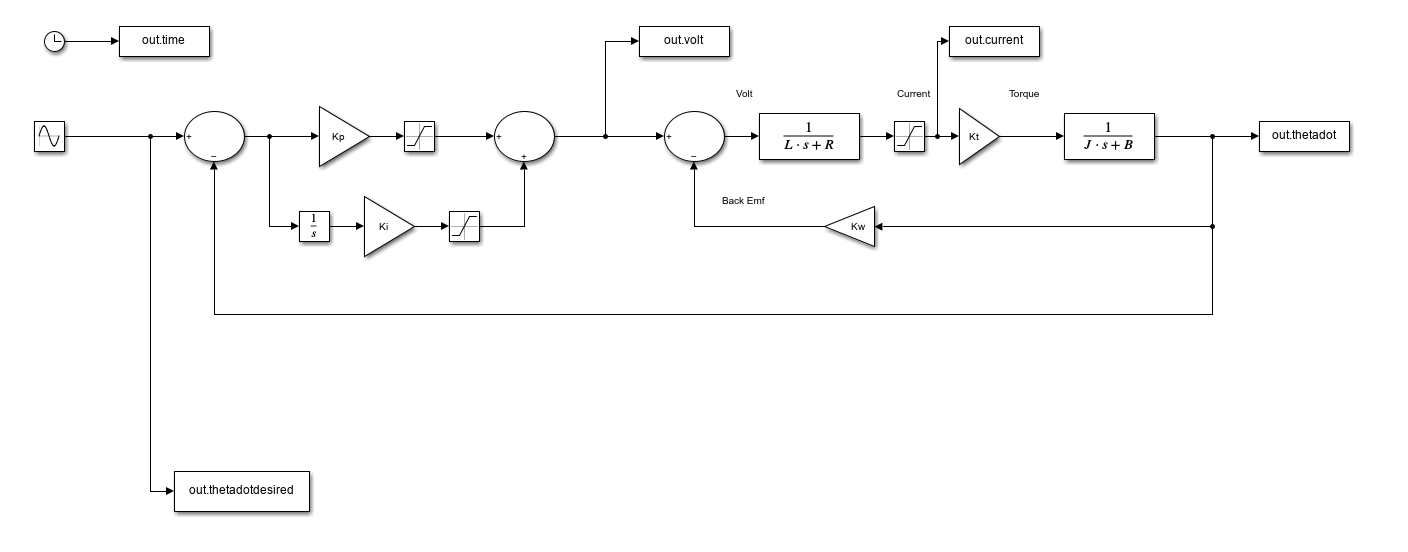


**The model with both Kp and Ki and has no overshoot**



And the best **step response** for **Kp = 1** and **Ki = 3**

Best **sinusoidal response** for **Kp =1** and **Ki = 4**

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