

Figure 8 Simulink response of PI controller for TL (2Nm) and speed (160 rad/sec)

Simulink response of PID controller for constant torque (2Nm) and constant speed (160rad/sec) is shown in figure (7) its shows that rise time of response is about 0.75sec. It's have maximum over shoot at $t = 0.9$ sec. after $t = 5$ sec. it's give steady state response.

The response of PI controller is shown in figure.(8), its shows that rise time of response is about 0.8 sec. it's have maximum over shoot at $t = 1$ sec. and after $t = 3.5$ its give steady state response.

For the validity of the result we find out Simulink response of PID and PI controller for constant Load and speed as shown in figures (7 - 8). It's seen that the PID controller improved the transient response and the steady state of MPDC motor and the best for control speed is PI controll

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