Abstract

Remotely-controlled DC Servomotors must transmit phase angle measurements and receive control commands via communication channels. Sampling, quantization, data transfer, and signal reconstruction are mandatory in such networked systems. Real Time Vehicle-To-Vehicle (V2V) communications system is designed to transfer information between vehicles, this information provides warnings to drivers and other vehicles. Transferring vital information between vehicles improves the overall efficiency and safety of the roadways. One of the vital information is braking data. This paper develops parameter estimation and system identification of a DC servomotor using quantized phase measurements. Then, through wireless communication channels braking data collecting from DC servomotor identification system is transferred between vehicles to help drivers avoid sudden braking accidents. The developed closed loop system with wireless communication channels in present of noise efficiently affect feedback performance. Simulations and experimental studies are performed to illustrate potential applications of this technology.
References

Index Terms

Computer Science  Circuits and Systems

Keywords

DC servomotor, Identification, braking, Vehicle, Closed Loop, Vehicle to Vehicle Communication.