

Abstract

A traction system in which DC series motors are used for running the electric trains is known as DC traction system. The DC power to be fed to DC series motor is obtained from substations which are located at a distance of 3 to 5 km for urban and suburban heavy traffic and 15 to 30 km for mainline service. A TCMS (Train Control and Monitoring System) is an onboard system built with the purpose to control and monitor a list of train equipment and functional processes. Based on a control and monitoring architecture. Train control and diagnostic system (TCMS) mainly completes the function of rail vehicle communication management, function control, fault diagnosis, information display and event recording of rail vehicles. In this work, a dc traction system is designed with regenerative braking system using proteus simulator. IGBTs are used to invert the DC input supply ranging from 500-900. When brake is applied, the induction motor act as a generator and produce voltages which is utilized to store in a super capacitor.