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Paper

Bhaskaran Umamaheswari
Anna Univesity

with:
Same

contact:
umakar@yahoo.com,
umamahesb@annauniv.edu

Network-Based Control Education Through Virual Laboratory

Control is a well known word for us as we encounter it in our day to day life. Whereas control engineering is little abstract and deals with the art of mastering and practicing `control` through understanding the mahtematical fundamentals and its real time apllication. Various approaches are used to master this field. One approach is to teach strictly in the theoretical point of view emphasising on theorems and this makes the course unpopular among learners. Another apprach is to use introduce design problems without practical relevance to the specifications. In real applications, practical limitations rule over theoretical designs.
The objective of this paper is to introduce the control of Thyristor controlled DC Drive through a mixed approach with the help of virtual laboatory and network-based control.
An architacture based on client-sever technology enabling online speed of the DC drive is proposed for online experimentation. An RMI server when started, invokes the built in bootstrap registry service, loads the native interface and creates a handle to the data acquisition card to control the speed of the Drive. The Web server establishes a link to the RMI server and effects the speed change in the motor. The user is allowed to first run a simulation of motor control and then to experiment the same.
This model has widespread scope for both industrial and academic applications.