

Research on Multi-closed-loop Mode Teaching Reform for Postgraduate Courses of Automation Major Under the Background of Emerging Engineering Construction

Li Mingxing, Hao Fei
School of Automation Science
and Electrical Engineering
Beihang University
Beijing, China
lmx196@126.com, fhao@buaa.edu.cn

Abstract

With the development of the emerging engineering construction and the automation major, many new requirements must be considered for the postgraduate core course teaching. In this paper, a new teaching form with multi-closed-loop mode is presented in nine dimensions. This new teaching form includes three closed-loop modes and their integration which are the closed-loop modes of the timely review and learning effect test of knowledge points in a chapter, the constructing results of relationships and networks of the knowledge points among chapters, and comprehensive application of knowledge and cultivation of innovation ability. By using this new teaching form with multi-closed-loop modes in the teaching process of the postgraduate core courses, the contradiction between the limited class hours and the depth and breadth of the course is avoided, and abilities of the innovation and comprehensive application of knowledge are improved for postgraduate students. At last, teaching practice of the above new teaching form is introduced in the course of Linear System Theory.

Keywords

Postgraduate Courses, Emerging Engineering, Closed-loop Mode Teaching, and Automation Major

lude robust and optimal control, event-triggered control, hybrid systems, and networked control systems.