

The Application of Scilab/Scicos in the lecture of Automatic Control Theory

Liao Wenjiang, Dong Nanping, Sun Jianjing
College of Automation, Beijing Union University
No97, North Four Ring, District Chaoyang, Beijing, China 100101
Phone: +86-10-64900513, Fax: +86-10-64900505
Email: zdhtwenjiang@buu.edu.cn

Abstract

Scilab is a free open-source mathematical software package for scientific computation. It includes hundreds of general purpose and specialized functions for numerical computation, organized in libraries called toolboxes that cover such as simulation, optimization, systems and control, and signal processing. Scicos is a Scilab package for modeling and simulating of dynamical systems, like Simulink in Matlab. Scicos provides a block-diagram graphical editor for the construction and simulation of dynamical systems. Widely used at universities and engineering schools, Scilab/Scicos is gaining ground in industrial environments and in colleges.

Based on characteristics of research on control theory and computer aided design of control systems, this paper discusses methods and skills of control system simulation by using Scicos, gives some examples of simulating typical control system by using Scilab and Scicos to explore new teaching methods for the lecture of Automatic Control Theory.

Keywords: Scilab, simulation and modeling, open-source, Scicos