<<复杂系统暨鲁棒控制的理论和应用>>

图书基本信息

书名：<<复杂系统暨鲁棒控制的理论和应用>>

13位ISBN编号：9787302234869

10位ISBN编号：7302234868

出版时间：2010-8

出版时间：清华大学出版社

作者：黄杰，刘康志，（日）太田快人　编著

页数：285

内容概要

the japan-china joint workshop on control was initiated in the august of 2004. the first and second joint workshops were held in beijing and harbin of china, respectively. the third joint workshop moved to japan and was held on the 18th of august, 2009 in fukuoka international conference center, as a part of sice annual conference of 2009. the third joint workshop was co-sponsored by the control division of society of instrument and control engineers, japan (sice) and the technical committee on control theory of chinese association of automation, china (caa).

this joint workshop provides a forum for the scientists and engineers from both japan and china, who are active in the field of control engineering, to present their most recent research outcomes and to exchange as well as to share their visions, ideas on control engineering. the focus of the third joint workshop is on complex systems and robust control. we are privileged that many world famous scholars from both sides took part in this workshop and delivered four keynote speeches. after a full day active discussion, all participants felt that the presentations in the workshop were both interesting and inspiring. the publication of a book of selected papers from this joint workshop will undoubtedly contribute to the control community of the world. so, the steering committee decided to publish this book.

this book is organized as two parts: one on complex systems and another on robust control.

作者简介

作者：黄杰 刘康志 （日本）太田快人

书籍目录

章节摘录

版权页：插图：2 Control as a transdisciplinary principle Control engineering was born at almost the same time as modern technol- ogy was born in the era of Industrial Revolution. So, it is one of the oldest disciplines of engineering, which is consistent with saying " no machine works without control ". Since then, control engineering has been developed in pace with the progress of modern technology and now it reaches a certain level of maturity on which contemporary technology seriously depends, as we notice. A salient characteristic feature of control engineering lies in its universality in the sense that it is used commonly in almost all areas of engineering. En- gineering disciplines are divided into several categories based on the types of energy resources they use ; electrical, mechanical, chemical and SO on. Control engineering is out of this categorization. It is used indispensably in these fields and sometimes embedded naturally in these disciplines. We find many other such disciplines, apart from control engineering, namely,systems engineering, network engineering, optimization , design engineering, human／machine inter- face, reliability engineering, and SO on. Now, it is natural to divide engineering disciplines into two categories：The one includes those engineering based es- sentially on the natural sciences whose objectives are to exploit the potentials of Nature for the use of human being, and the other includes those that do not directly related to the Nature, rather related to the artifacts, society and humans. The disciplines included in the former category tend to concentrate on refining each component of systems and promote each specific technology,SO that further ramifications take place. On the other hand, the disciplines in the latter category tend to integrate different disciplines to challenge the problems. We may call the engineering fields contained in the first category applied engineering, while those in the second category pure engineering . The names come from the fact that the disciplines in the first category are essentially regarded as applications of natural sciences, while those in the second category are independent from natural science and are closed within the engineering world.

编辑推荐

《复杂系统暨鲁棒控制的理论和应用》由清华大学出版社出版。

版权说明