

<<热控专业英语>>

图书基本信息

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## 前言

本书是为适应高等院校专业英语教学的需要,依据热控专业的教学要求编写的,其主旨是提高学生读译专业英语的能力和水平。

本书包括33个单元,共六部分。

涉及自动控制原理、计算机的基本知识、热工检测技术、热工自动控制系统、热工保护、顺序控制、可编程控制等热控专业知识。

每个单元后列出了专业词汇,并对课文的难点内容进行了注释。

编者在教学、科研、现场实践等多个环节积累了丰富的材料,每个单元的内容均提炼于此。

本书的选材简练生动,单元的长度和设置符合教学要求。

本书由山东电力高等专科学校齐宪华副教授和沈阳工程学院的于红霞老师主编。

齐宪华编写了第一部分,第二部分,第三部分的15、19、20单元,第四部分的21~24单元及27单元,第五部分的28~30单元,以及全书的词汇和附录;于红霞编写了16、17、18、25、26、31单元及第六部分;山东鲁能控制工程有限公司王硕参与了图形绘制并承担了部分编写任务。

全书由齐宪华统稿。

本书由长沙理工大学潘维加教授和山东大学张承进教授主审。

主审老师对本书进行了认真审阅,提出了许多宝贵意见,付出了辛勤的劳动。

在此,编者表示衷心的感谢。

本书在收集材料过程中也得到了学校和电厂的大力支持,在此一并表示感谢。

在编写的过程中,由于时间仓促,水平所限,难免有一些疏漏之处,敬请读者指正。

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### 内容概要

本书为普通高等教育“十一五”国家级规划教材。

本书包括33个单元，共六部分，内容涉及自动控制原理、计算机的基本知识、热工检测技术、热工自动控制系统、热工保护、顺序控制、可编程控制等热控专业知识。

每个单元的学习材料均由编者从教学、科研、现场实践等多个环节提炼而来，简练生动，单元的长度和设置符合教学要求。

每个单元后列出了专业词汇，并对课文的难点内容进行了注释。

本书可作为本科能源动力类和高职高专电力技术类相关专业的专业英语教材，也可作为科技人员和现场运行技术人员的培训教材和自学参考书。

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## 章节摘录

In recent years, automatic control systems have assumed an increasingly important role in the development and advancement of modern civilization and technology. Domestically, automatic controls in heating and air conditioning systems regulate the temperature and the humidity of modern homes for comfortable living. Industrially, automatic control systems are found in numerous applications, such as quality control of manufactured products, automation, machine tool control, modern space technology and weapon systems, computer systems, transportation systems, and robotics. Even such problems as inventory control, social and economic systems control, and environmental and hydrological systems control may be approached from the theory of automatic control. The basic control system concept may be the simple block diagram shown in Fig. 1.1. The objective of the system is to control the variable  $c$  in a prescribed manner by the actuating signal  $e$  through the elements of the control system. In more common terms, the controlled variable is the output of the system, and the actuating signal is the input. As a simple example, in the steering control of an automobile, the direction of the two front wheels may be regarded as the controlled variable  $c$ , the output. The position of the steering wheel is the input, the actuating signal  $e$ . The controlled process or system in this case is composed of the steering mechanisms, including the dynamics of the entire automobile. However, if the objective is to control the speed of the automobile, then the amount of pressure exerted on the accelerator is the actuating signal, with the speed regarded as the controlled variable.

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