

Synthesis Digital Library of Engineering and Computer Science

使用簡介

■ 資料庫簡介：

M&C 出版社崛起於 2005 年，致力於工程學與電腦資訊科學的研究、發展及教育，是一個創新的電子資源，集結來自國外知名大學教授的課堂講義及手稿，讓您身在台灣就可以親受大師的薰陶。內容皆出於專家獨特的見解，並且出版快速，讓讀者獲得比電子期刊更新穎更精闢的內容與分析，頁數介於 100 頁-200 頁，與傳統紙本、電子參考資源、電子期刊或電子專題論文相較下更多了優越的時效性與功能性。

目前 **Collection 1** 已完整出版，共有 100 個 titles，2008 年將陸續出版 **Collection 2**，預計包含 125 個 titles。

■ 資料庫首頁

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②

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Synthesis Digital Library of Engineering and Computer Science

- 2008 Best Reference Work Award Synthesis was recently recognized by the ASEE Engineering Library Division - see press release [here](#).
- Second Collection Begins! The first few titles in Collection Two are now available: click [here](#).
- First Collection Complete! The complete Synthesis Collection One is now available online. For a list of all 100 titles click [here](#).
- New Life Sciences Division: Morgan & Claypool is growing! Click [here](#) for more information.
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①

可按此瀏覽已出版完成的 Collection 1

■ 瀏覽方式

Option 1 : 由上圖 ① 進入 Collection 1 , 共有 100 個 title , 可由此進入閱讀

Home	Synthesis	Search	Profile	Access	Author	Help	About
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Quick search: within:

Synthesis Digital Library of Engineering and Computer Science

Complete Collection One

Title 名稱	<ul style="list-style-type: none"> • Adaptive Mesh Refinement for Time-Domain Numerical Electromagnetics (Sarris) Synthesis Lectures on Computational Electromagnetics • Advanced Probability Theory for Biomedical Engineers (Enderle/Farden/Krause) Synthesis Lectures on Biomedical Engineering • Antennas with Non-Foster Matching Networks (Aberle/Loepsinger-Romak) Synthesis Lectures on Antennas • Articulation and Intelligibility (Allen) Synthesis Lectures on Speech and Audio Processing • Artificial Organs (Miller) Synthesis Lectures on Biomedical Engineering • Atmel AVR Microcontroller Primer: Programming and Interfacing (Barrett/Pack) Synthesis Lectures on Digital Circuits & Systems • Basic Probability Theory for Biomedical Engineers (Enderle/Farden/Krause) Synthesis Lectures on Biomedical Engineering • Bioinstrumentation (Enderle) Synthesis Lectures on Biomedical Engineering • Biomedical Image Analysis: Tracking (Acton/Ray) Synthesis Lectures on Image, Video, and Multimedia Processing • BioNanotechnology (Papazoglou/Parthasarathy) Synthesis Lectures on Biomedical Engineering • A Blossoming Development of Splines (Mann) Synthesis Lectures on Computer Graphics and Animation • Brain-Machine Interface Engineering (Sanchez/Principe) Synthesis Lectures on Biomedical Engineering • Capstone Design Courses: Producing Industry-Ready Biomedical Engineers (Goldberg) Synthesis Lectures on Biomedical Engineering • Chip Multiprocessor Architecture: Techniques to Improve Throughput and Latency (Olukotun, Hammond, Laudon) Synthesis Lectures on Computer Architecture 	所屬的 Series 主題, 可點選進入看同一個主題下還有哪些其他 title
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Option 2 : 由首頁左邊選項 ② 選擇 [Browse by Series](#) 依主題進行瀏覽

Synthesis Series

The following is a list of the current Synthesis series and their editors. Title links lead to series descriptions and lists of lectures if available.

編輯者 名稱	<p>Algorithms and Software in Engineering Andreas Spanias, Arizona State University</p> <p>Antennas Constantine A. Balanis, Arizona State University</p> <p>Artificial Intelligence and Machine Learning Ronald Brachman, Yahoo! Research and Thomas Dietterich, Oregon State University</p> <p>Biomedical Engineering John D. Enderle, University of Connecticut</p> <p>Communication Networks Jean Walrand, University of California-Berkeley</p> <p>Communications William Tranter, Virginia Tech</p> <p>Computational Electromagnetics Constantine A. Balanis, Arizona State University</p>	主題名稱, 可點選進入觀看其下包含哪些 title。部分主題尚在建置中。
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■ 瀏覽功能介紹

假設由上述方式點選一本 title 進入後，頁面如下

Advanced Probability Theory for Biomedical Engineers Synthesis Lectures on Biomedical Engineering

2006, 108 pages, (doi:10.2200/S00063ED1V01Y200610BME011)

John D. Enderle
Program Director & Professor of Biomedical Engineering, University of Connecticut

David C. Farden
Professor of Electrical and Computer Engineering, North Dakota State University

Daniel J. Krause
Emeritus Professor of Electrical and Computer Engineering, North Dakota State University

Abstract

This is the third in a series of short books on probability theory and random processes for biomedical engineers. This book focuses on standard probability distributions commonly encountered in biomedical engineering. The exponential, Poisson and Gaussian distributions are introduced, as well as important approximations to the Bernoulli PMF and Gaussian CDF. Many important properties of jointly Gaussian random variables are presented. The primary subjects of the final chapter are methods for determining the probability distribution of a function of a random variable. We first evaluate the probability distribution of a function of one random variable using the CDF and then the PDF. Next, the probability distribution for a single random variable is determined from a function of two random variables using the CDF. Then, the joint probability distribution is found from a function of two random variables using the joint PDF and the CDF.

The aim of all three books is as an introduction to probability theory. The audience includes students, engineers and researchers presenting applications of this theory to a wide variety of problems—as well as pursuing these topics at a more advanced level. The theory material is presented in a logical manner—developing special mathematical skills as needed. The mathematical background required of the reader is basic knowledge of differential calculus. Pertinent biomedical engineering examples are throughout the text. Drill problems, straightforward exercises designed to reinforce concepts and develop problem solution skills, follow most sections.

[PDF \(853.873 KB\)](#) [PDF Plus \(758.293 KB\)](#)

PDF 檔全文，可下載、列印

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- John D. Enderle
- David C. Farden
- Daniel J. Krause

Keywords:

- Probability Theory
- Random Processes
- Engineering Statistics

可利用作者名或
文章關鍵字在資
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搜尋

■ 搜尋功能介紹

除了在每個頁面上方都有快速搜尋鍵，可直接鍵入關鍵字搜尋之外，也可以按下上方工具列的 Search，選擇 Simple 或 Advanced Search

Simple Search

Simple search

Simple Search Advanced Search

Enter your search term(s) here. Use quotation marks to group multiple terms into a single search item. Limit your search to a category or to one or more series in the Series box, below. Click the Search button to locate authoritative review lectures.

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若要重新搜尋最近搜尋過的關鍵字，可使用下拉選單選取

Series:

Tip: You can select more than one item by holding the CTRL key while clicking.

All series

Favorite series

- Synthesis Lectures on Algorithms and Software in Engineering
- Synthesis Lectures on Antennas
- Synthesis Lectures on Artificial Intelligence and Machine Learning

選擇在所有內容或某幾個主題 series 裡頭搜尋。要同時搜尋幾個 series 時，可按下 Ctrl 鍵加以選取

輸入欲搜尋的關鍵字

Advanced Search

Advanced search

Simple Search Advanced Search

Enter your search term(s) here and specify the field(s) to search. In any field, use quotation marks to group multiple terms into a single search item. Limit your search to a category or to one or more series in the Series box, below. Using the Time Frame boxes, delimit a range of years.

Authors

Lecture title

All

AND

AND

SEARCH

可選擇關鍵字之間的布林邏輯關係

可同時輸入最多三組關鍵字，並使用前方的下拉選單限制關鍵字出現的範圍

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All series

Favorite series

- Synthesis Lectures on Algorithms and Software in Engineering
- Synthesis Lectures on Antennas
- Synthesis Lectures on Artificial Intelligence and Machine Learning

Time Frame:

From: 1930 to: 2008

Order results: by date by relevancy

Display snippets: yes no

Display results in groups of: 20

限定出版時間範圍

搜尋結果是否包含部份摘要

選擇排列方式

搜尋結果每頁顯示比數

■ 搜尋結果頁面

假設我們以 **Power converters** 作為關鍵字，在整個資料庫內容中進行搜尋，搜尋結果畫面如下：

The screenshot shows a search results page for the query "Power converters". The page displays 14 matches found. The search results are listed in a table with columns for checkboxes, item numbers, titles, authors, and publication details. The first four results are:

1. **Digital Control in Power Electronics**
[Simone Buso, Paolo Mattavelli](#)
Synthesis Lectures on Power Electronics Jan 2006, Vol. 1, No. 1: 1-158.
[Abstract](#) | [PDF \(2049 KB\)](#) | [PDF Plus](#) | [Add to Favorites](#) | [Related](#)
2. **Power Electronics for Modern Wind Turbines**
[Frede Blaabjerg, Zhe Chen](#)
Synthesis Lectures on Power Electronics Jan 2006, Vol. 1, No. 1: 1-68.
[Abstract](#) | [PDF \(3253 KB\)](#) | [PDF Plus](#) | [Add to Favorites](#) | [Related](#)
3. **Antennas with Non-Foster Matching Networks**
[James T. Aberle, Robert Loepsinger-Romak](#)
Synthesis Lectures on Antennas Jan 2007, Vol. 2, No. 1: 1-53.
[Abstract](#) | [PDF \(3133 KB\)](#) | [PDF Plus \(858 KB\)](#) | [Add to Favorites](#) | [Related](#)
4. **Microcontrollers Fundamentals for Engineers and Scientists**
[Steven F. Barrett, Daniel J. Pack](#)
Synthesis Lectures on Digital Circuits and Systems Jan 2006, Vol. 1, No. 1: 1-124.
[Abstract](#) | [PDF \(4276 KB\)](#) | [PDF Plus \(2219 KB\)](#) | [Add to Favorites](#) | [Related](#)

Annotations on the page include:

- A red box highlights the search results summary: "Search Results: 14 matches found" and "Search Query: All: Power converters". An arrow points to a callout box: "總共找到幾筆搜尋結果".
- A callout box: "回到搜尋頁面，重新修正搜尋條件" points to the "Previous page | Next page" navigation links.
- A callout box: "開始一個新的搜尋" points to the "Refine Search" section, which includes links for "Modify Your Search", "New Simple Search", and "New Advanced Search".
- A callout box: "在搜尋結果內再加入關鍵字進行搜尋" points to the "Search within results" section, which includes a search input field and a "SEARCH" button.
- A callout box: "存取搜尋結果，並可設定 e-mail alert" points to the "Save Search" section, which includes a "Saved search name:" input field, a "SAVE" button, and an "Alert me:" dropdown menu set to "Weekly".

