References: Wonderful books from an army of giants

Here is a list of books that we consulted in writing this book. These are in our opinion among the best reference materials for this topic.

1. [Brigham1988] Brigham, Oran E., "***The Fast Fourier Transform, FFT and its Applications***", Prentice Hall, 1988.
   This is a classic book. However, you will need to know the basics in order to understand the deep stuff in this book.

2. [Gleason1995] Gleason, Alan., "***Who is Fourier, A Mathematical Adventure***" Translational College of Lex, Language Research Foundation, Boston, 1995.
   If you want to learn the basics in a fun way that is even simpler than our book, get this amazing book.

3. [Hayes1996] Hayes Monson H., ***Statistical Digital Signal Processing and Modeling***, (1996), John Wiley & Sons.
   This is a graduate level textbook and a must have if you are either working in this field or doing a Ph.D. Most all of the topics such as; signal modeling, Levinson recursion, Lattice filters, adaptive filtering and spectral estimation are accompanied by Matlab code. This is an important book and, we derived a lot of useful intuition from it.

4. [Kay1988] Kay, Steven M., ***Modern Spectral Estimation, Theory and Applications***, Prentice Hall, 1988.
   This is one of those seminal books that is referred to in nearly all books/articles that talk about spectral estimation, a topic covered in the last chapters of our book. We often consulted this book to clear up some mathematical point we wanted to make. It is heavy on theory and more than three-quarters of the book is devoted to parametric spectral estimation which we have not included in our book. It is quite a big topic, related less to Fourier analysis and more to non-linear system theory.

5. [Kraniauskas1995] Kraniauskas, Peter., "***Transforms in Signals and Systems***", Addison-Wesley, 1995.
   It's too bad this book is not easy to find. It is choke full of beautiful graphics that explain the full transform theory in a way never done before and unlikely to be repeated. It's a fantastic book. The text does not always keep with the clarity of the figures but that is a small quibble.

6. [Lathi1998] Lathi, B. P., ***Modern Digital and Analog Communications***. 3rd Edition, Oxford University Press, 1998.

   Chapter 4 of this book beautifully covers the development of power and energy spectral densities. It is one of the few books that goes through the steps of proving the equivalence of the Wiener-Khinchin-Einstein Theorem and the Perceval method. Chapter 11 covers random Processes and it covers the topic of stationarity and ergodicity particularly well. The book covers everything beautifully and completely. Great book for first communications class.

7. [Lyons2013] Lyons, Rick., "***Understanding Digital Signal Process***", Prentice Hall, 2013.
   Excellent book that explains everything in plain language first and then follows it up with clear examples that help build intuitive understanding. This book was the inspiration in writing our book. Lyons can explain complex concepts like no one else. This book is a model of how engineering should be taught.

8. [Mandal2007] Mandal, Mrinal. and Asif, Amir., "***Continuous and Discrete Time Signals and System***" Cambridge University press, 2007.
   A superb, comprehensive DSP book. Any number of superlatives can be used to describe this book. Does an excellent job of covering each of the topics covered in this book. I wish I had this as my textbook in college. The effort the author makes to make sure that all intermediate steps are fully explained well, and that makes this book better than all others. This book is beyond a doubt the best DSP textbook out there.

9. [Marks2009] Marks II, Robert J. , "***Handbook of Fourier Analysis and its Applications***", Oxford University Press, 2009.
   This 750-page book goes about as far in applications of Fourier analysis as one can go. The book is sparse on providing intuitive understanding but what it lacks in that area, it makes up in mathematical comprehensiveness.

10. [Miller2004] Scott L. Miller, Donald G. Childers. ***Probability and Random Processes***, Elesevier Inc., 2004.
    This is a very well written book on fundamental topic of probability. I wish I had this book at USC instead of Papoulis. There are a lot of worked out examples and the authors do a good job of demonstrating the concepts with Matlab code. I referred to two chapters mainly, and they were Chapter 4 on basic description of Random variables and Chapter 10 which discusses Spectral density of both parametric and non-parametric methods.

11. [Mitra2006] Mitra, Sanit K., "***Digital Signal Processing***", McGraw Hill, 2006.
A great textbook with lots of well done with examples, Matlab code and beautiful graphics.

12. [Oppenheim1997] Oppenheim, Alan V. and Willsky, Alan S. with S. Hamid Nawab., "***Signals and Systems***", Second edition, Prentice Hall, 1997.
This popular textbook on the Fourier analysis is the traditional way of teaching transform theory, along with linear systems. But I think combining linear system theory and transform theory is often confusing to students. Linear systems should be taught after transforms are taught and understood. The explanations for the CTFT, DTFT in this book are of course super and the book deserves its preeminent status.

13. [Percival1993] Percival, Donald B and Walden, Andrew T, ***Spectral Analysis for physical Applications, Multi-taper and conventional Univariate Techniques***, Cambridge University Press, 1993.
Interesting book with a lot of wonderful charts and graphs, but a little weak in explanation. It has very many excellent graphs but there is little information on how they were created. The book has a chapter on Multi-taper spectral estimation however it is not for the beginner.

14. [Poularikas2009] Poularikas, Alexander D., "***Discrete Random Signal processing and Filtering Primer with Matlab***", CRC press, 2009.
This book has extensive Matlab examples and excellent discussion of several spectral estimation methods. Looking for advanced book on DSP? Then this is a great book. I referred to Chapter 3 and 4 for our book which covers the subject of spectral estimation succinctly and comprehensively. What it may lack in words (as this is a small book) it makes up for with examples and Matlab code.

15. [Priestley1981] Priestley, M.B., "***Spectral Analysis and Time Series***", Academic Press, 1981.
Classic book on Spectral estimation. This and Kay book are both similar in detail, and leaning, on mathematical validity.

16. [Rorabaugh2011] Rorabaugh, C. Britton, "***Notes on Digital Signal Processing***", Prentice Hall, 2011.
This is a concise book of all the important mathematical and practical aspects of the algorithms used in DSP. Excellent reference book when you want to look up the basics of some particular algorithm. Nicely designed and practical book to have on one's shelf.

17. [Smith2007] Smith, III, Julius O. , "***Mathematics of the Discrete Fourier Transform (DFT): with Audio Applications***", W3K Publishing, 2007.
A book full of mathematical depth but done with a light touch. You will find it very useful if you are working on algorithms in DSP.

18. [Schwartz1977] Schwartz, Mischa and Shaw, Leonard., "***Signal Processing: Discrete Spectral Analysis, Detection and Estimation***", McGraw Hill, 1977.
Short and sweet book on exactly the topics in the title. It is old but a very good book with great explanations and manageable math, all well explained.

19. [Stein2000] Stein, Jonathon (Y)., "***Digital Signal processing, a Computer Science Perspective***", Wiley Interscience, 2000.
This is an unusual book. It consists of a lot of very short chapters covering just one concept at a time. At the end of each three to four page chapters are some conceptual questions that really test and challenge your understanding. This 800-page book is written in a breezy, friendly style. I referred to this book throughout while writing this book just for inspiration on how to write about mathematical ideas. I feel that this book is a must have for all EE's. Makes for great bed-time reading.

20. [Stoica1997] Stoica, Petre, Moses, Randolph, ***Introduction to Spectral Analysis***, Prentice Hall, 1997.
The emphasis of this book is mostly on parametric estimation. This is a whole another field beyond the non-parametric estimation and I have chosen not to cover in my book. Perhaps it is something I will do in the next revision/edition. The book is not as well written as I would like. The equation development is confusing and not easy for a beginner. Still worth owning, if you are an advanced student in this field.

21. [Tervo2014] Tervo, Richard J., "***Practical Signal Theory with Matlab Applications***", Wiley Interscience, 2014.
Excellent book with great graphics. Does a super job of covering the whole transform theory, with Laplace, Z-transform and the Fourier as well as Liner systems applications. Could easily be used as text book.

22. [Therrie2012] Therrie, Charles W. and Tummala, Murali, ***Probability and Random Process for Electrical and Computer Engineers***. CRC Press, 2012.
I found this to be an excellent book for basic probability and random process understanding and definitions. Some of the definitions of random processes we used in this book, I got from this book. I recommend it as an excellent book to have.

Charan Langton