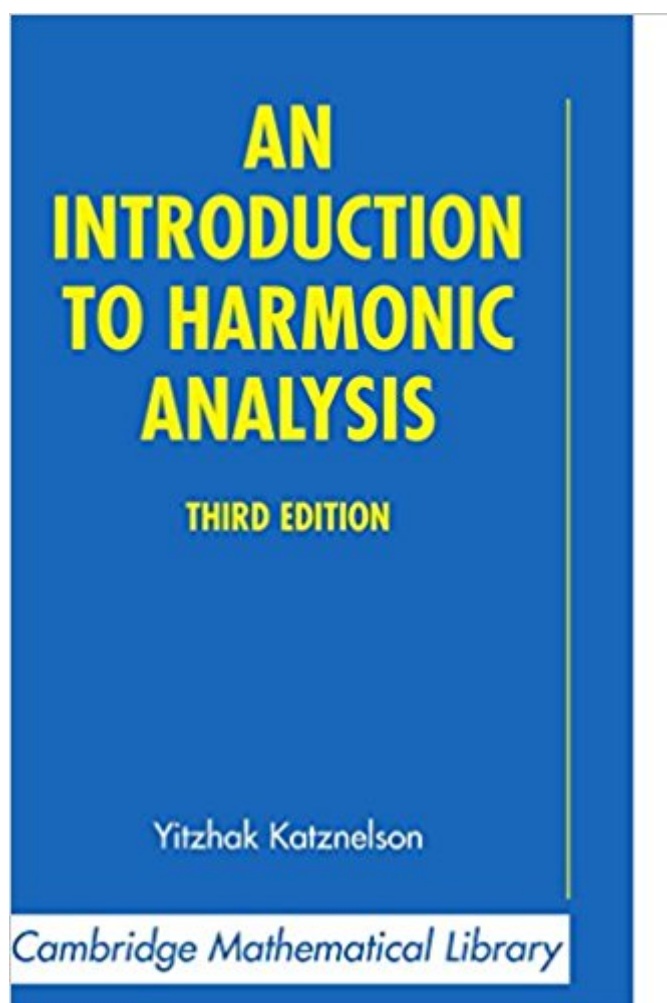


The book was found

# An Introduction To Harmonic Analysis (Cambridge Mathematical Library)



## Synopsis

Awarded the American Mathematical Society Steele Prize for Mathematical Exposition, this Introduction, first published in 1968, has firmly established itself as a classic text. Yitzhak Katznelson demonstrates the central ideas of harmonic analysis and provides a stock of examples to foster a clear understanding of the theory. This new edition has been revised to include several new sections and a new appendix.

## Book Information

Series: Cambridge Mathematical Library

Paperback: 336 pages

Publisher: Cambridge University Press; 3 edition (January 5, 2004)

Language: English

ISBN-10: 0521543592

ISBN-13: 978-0521543590

Product Dimensions: 6 x 0.8 x 9 inches

Shipping Weight: 1.3 pounds (View shipping rates and policies)

Average Customer Review: 4.7 out of 5 stars 6 customer reviews

Best Sellers Rank: #789,465 in Books (See Top 100 in Books) #53 in [Books > Science & Math > Mathematics > Infinity](#) #295 in [Books > Science & Math > Mathematics > Pure Mathematics > Discrete Mathematics](#) #664 in [Books > Science & Math > Mathematics > Mathematical Analysis](#)

## Customer Reviews

"Katznelson's An Introduction to Harmonic Analysis is, of course, a classic...So the first thing to say is 'thank you,' to Cambridge for doing this new edition, and to Prof. Katznelson for undertaking the task of updating his book...It is an ambitious book, moving all the way from Fourier series to Banach algebras and analysis on locally compact abelian groups. It is densely but clearly written, with the occasional flash of wit." MAA Reviews, Fernando Q. Gouvea

First published in 1968, this Introduction has firmly established itself as a classic text and a favorite for students and experts alike. Yitzhak Katznelson begins with an exposition of classical Fourier series. His aim is to demonstrate the central ideas of harmonic analysis and provide a stock of examples to foster a clear understanding of the theory. This new edition has been revised to include several new sections and a new appendix.

When the first edition of Katznelson's book appeared back in 1968 (when I was a student), it soon became the talked about, and universally used, reference volume for the standard tools of harmonic analysis: Fourier series, Fourier transforms, Fourier analysis/synthesis, the math of time-frequency filtering, causality ideas,  $H^p$ -spaces, and the various incarnations of Norbert Wiener's ideas on the Fourier transform in the complex domain, Paley-Wiener, spectral theory, and more. It is easy to pick up the essentials in this lovely book. Now, many years later, I occasionally ask beginning students what their favorite reference is on things like that, and more often than not, it is Katznelson. Thanks to Dover, it is on the shelf of most university bookstores, and priced under US\$ 10.

This is an excellent introduction to abstract harmonic analysis. It is written at a reasonable advanced level; know your measure theory and some functional analysis ahead of time! Many of the exercises at the ends of the sections are difficult. There are typos, so be sharp!

Love it!!

Katznelson includes good topics, but for each topic in this book there is a better place to learn it from. For my taste, Grafakos, *Classical Fourier Analysis* (Graduate Texts in Mathematics), is strictly better than Katznelson. It includes almost all the same content, but does things in more detail and the presentation is more clear. In fact Grafakos is better both for the learner and as a reference. Another harmonic analysis book that is easy to understand and has great chapters on probability and wavelets is Pinsky, *Introduction to Fourier Analysis and Wavelets* (Graduate Studies in Mathematics). For the Gelfand theory of Banach algebras, my favorite book is Rudin's "Functional Analysis". A book that is rather similar to Katznelson is Muscalu and Schlag, *Classical and Multilinear Harmonic Analysis* (Cambridge Studies in Advanced Mathematics) (Volume 1), and Muscalu and Schlag are interested in partial differential equations which Katznelson has nothing to say about. If you are learning harmonic analysis on your own, I recommend looking through the above books rather than using Katznelson. But if you are taking a course that follows Katznelson, let me say that it is not a bad book and if you have someone to ask questions you will indeed be able to learn from it.

This is a great book for looking at classical harmonic analysis: the study of Fourier Series on the "typical" groups, includes a quick look at the general situation and ends with an introduction to

commutative Banach Algebras. Both topics are continued in [Loomis].

Katznelson's book considers harmonic analysis primarily on the circle group. He does this from a thoroughly modern point of view. An understanding of the basic ideas of Banach spaces is required. This book should be on the shelf of any aspiring Harmonic Analyst, especially one with an abstract viewpoint.

[Download to continue reading...](#)

An Introduction to Harmonic Analysis (Cambridge Mathematical Library) Harmonic Analysis: From Fourier to Wavelets (Student Mathematical Library) The Harmonic Minor Tunebook: One Hundred and One Tunes for the Ten Hole Harmonica in Harmonic Minor Tuning Functions, Spaces, and Expansions: Mathematical Tools in Physics and Engineering (Applied and Numerical Harmonic Analysis) The Mathematical Theory of Non-uniform Gases: An Account of the Kinetic Theory of Viscosity, Thermal Conduction and Diffusion in Gases (Cambridge Mathematical Library) Elementary Algebraic Geometry (Student Mathematical Library, Vol. 20) (Student Mathematical Library, V. 20) An Introduction to the Mathematical Theory of Waves (Student Mathematical Library, V. 3) An Introduction to Fluid Dynamics (Cambridge Mathematical Library) Cambridge Global English Stage 9 Workbook: for Cambridge Secondary 1 English as a Second Language (Cambridge International Examinations) Applied Functional Analysis: Applications to Mathematical Physics (Applied Mathematical Sciences) (v. 108) Random Fourier Series with Applications to Harmonic Analysis. (AM-101), Volume 101 (Annals of Mathematics Studies) Harmonic Analysis and Applications (Studies in Advanced Mathematics) Harmonic Analysis on Symmetric Spaces  $\rightarrow$  Euclidean Space, the Sphere, and the Poincaré Upper Half-Plane Harmonic Analysis on Symmetric Spaces  $\rightarrow$  Higher Rank Spaces, Positive Definite Matrix Space and Generalizations Stochastic Models, Information Theory, and Lie Groups, Volume 1: Classical Results and Geometric Methods (Applied and Numerical Harmonic Analysis) Stochastic Models, Information Theory, and Lie Groups, Volume 2: Analytic Methods and Modern Applications (Applied and Numerical Harmonic Analysis) Distributions in the Physical and Engineering Sciences: Distributional and Fractal Calculus, Integral Transforms and Wavelets (Applied and Numerical Harmonic Analysis) The First Book of Scales, Chords, Arpeggios & Cadences: Includes All the Major, Harmonic Minor & Chromatic Scales (Alfred's Basic Piano Library) Markov Chains and Stochastic Stability (Cambridge Mathematical Library) Diffusions, Markov Processes, and Martingales: Volume 1, Foundations (Cambridge Mathematical Library)

Contact Us

DMCA

Privacy

FAQ & Help