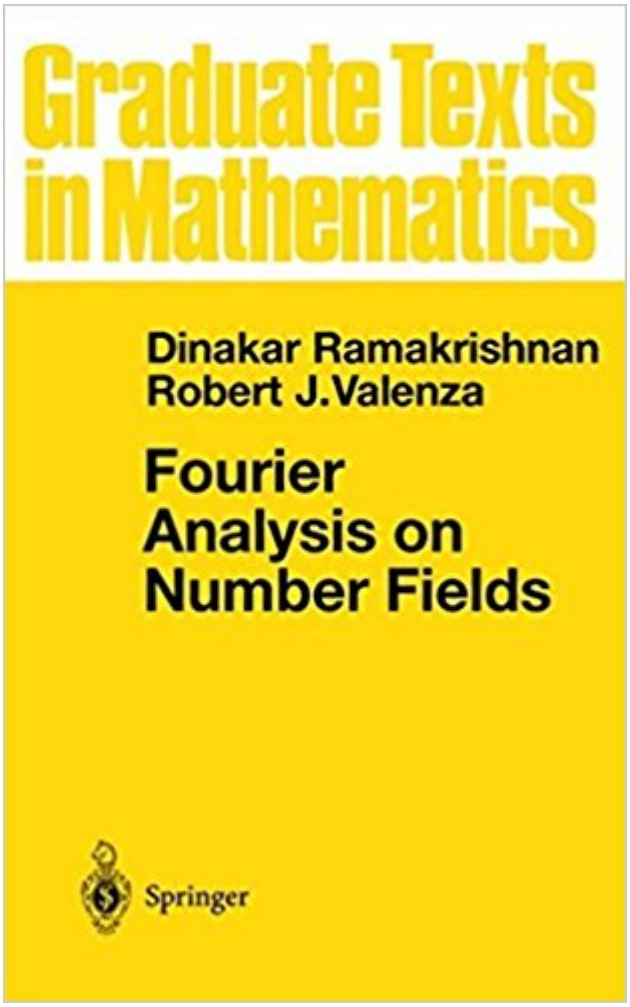
# Fourier Analysis On Number Fields (Graduate Texts In Mathematics) (v. 186)



## Synopsis

A modern approach to number theory through a blending of complementary algebraic and analytic perspectives, emphasising harmonic analysis on topological groups. The main goal is to cover John Tates visionary thesis, giving virtually all of the necessary analytic details and topological preliminaries -- technical prerequisites that are often foreign to the typical, more algebraically inclined number theorist. While most of the existing treatments of Tates thesis are somewhat terse and less than complete, the intent here is to be more leisurely, more comprehensive, and more comprehensible. While the choice of objects and methods is naturally guided by specific mathematical goals, the approach is by no means narrow. In fact, the subject matter at hand is germane not only to budding number theorists, but also to students of harmonic analysis or the representation theory of Lie groups. The text addresses students who have taken a year of graduate-level course in algebra, analysis, and topology. Moreover, the work will act as a good reference for working mathematicians interested in any of these fields.

## Book Information

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## Customer Reviews

"Fourier Analysis on Number Fields" provides a much-needed graduate text for number theorists and group theorists. Though necessarily difficult in parts because of the complicated material it covers, it is very manageable for a student. It includes a number of exercises at the end of each of its seven chapters. At the same time, it is very valuable for a researcher. Perhaps its best feature

are the wonderful introductions to each chapter. These give insightful historical overviews, in keeping with the authors' theme of presenting material from disparate sources together in a coherent text. It is obvious that they spent a lot of attention on the beginner's needs.Indeed, existing texts cover most if not all of the material in this new book. Others, including some new books on automorphic forms, take the reader much further. However, not everyone has the same starting point and all of these can be very frustrating for a beginner. The novelty and utility in this book is that it does not assume the reader comes from some particular background. Off-hand I could name five or six other books I would consult to learn the material "FANF" covers. But each comes from a different community of mathematicians, with their own jargon, in different eras, and are intended for different audiences. "FANF" sacrifices some proofs for clarity, and gives references to the classical sources for further details.One of the authors' goals was to give explicit background on the structure of the fields involved, particularly the delicate arithmetic structure of number fields which is sometimes frustrating to learn from other sources. They have covered the structure of locally-compact fields very well and clearly.