

D'Angelo

Hermitian Analysis

From Fourier Series to Cauchy-Riemann Geometry

This textbook provides a coherent, integrated look at various topics from undergraduate analysis. It begins with Fourier series, continues with Hilbert spaces, discusses the Fourier transform on the real line, and then turns to the heart of the book, geometric considerations. This chapter includes complex differential forms, geometric inequalities from one and several complex variables, and includes some of the author's original results. The concept of orthogonality weaves the material into a coherent whole. This textbook will be a useful resource for upper-undergraduate students who intend to continue with mathematics, graduate students interested in analysis, and researchers interested in some basic aspects of Cauchy-Riemann (CR) geometry. The inclusion of several hundred exercises makes this book suitable for a capstone undergraduate Honors class.

This second edition contains a significant amount of new material, including a new chapter dedicated to the CR geometry of the unit sphere. This chapter builds upon the first edition by presenting recent results about groups associated with CR sphere maps.

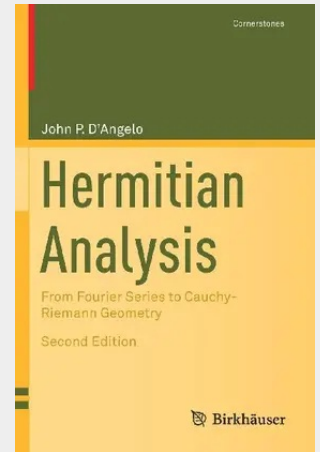
From reviews of the first edition:

The present book developed from the teaching experiences of the author in several honors courses. All the topics are motivated very nicely, and there are many exercises, which make the book ideal for a first-year graduate course on the subject.

The style is concise, always very neat, and proofs are given with full details. Hence, I certainly suggest this nice textbook to anyone interested in the subject, even for self-study. **Fabio Nicola, Politecnico di Torino, Mathematical Reviews**

D'Angelo has written an eminently readable book, including excellent explanations of pretty nasty stuff for even the more gifted upper division players It certainly succeeds in hooking the present browser: I like this book a great deal. **Michael Berg, Loyola Marymount University, Mathematical Association of America**

Introduction to Fourier series.- Hilbert spaces.- Fourier transform on $\mathbb{R}$.- Geometric considerations.- The unit sphere and CR geometry.- Appendix.



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