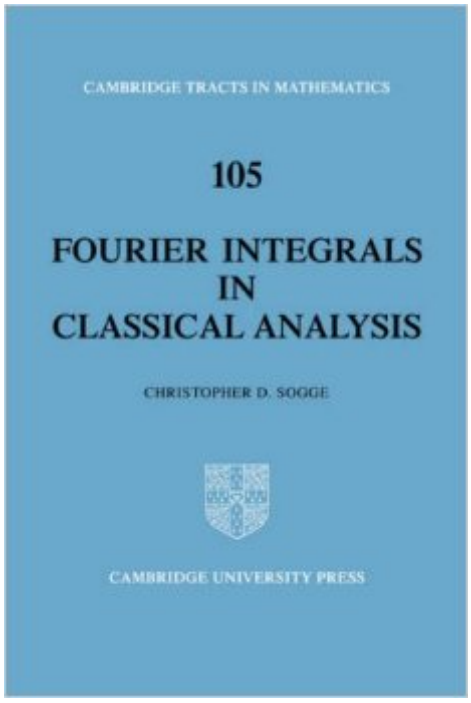
# Fourier Integrals In Classical Analysis (Cambridge Tracts In Mathematics)



## Synopsis

Fourier Integrals in Classical Analysis is an advanced treatment of central problems in harmonic analysis. The main theme of the book is the interplay between ideas used to study the propagation of singularities for the wave equation and their counterparts in classical analysis. Using microlocal analysis, the author in particular studies problems involving maximal functions and Riesz means using the so-called half-wave operator. This self-contained book starts with a rapid review of important topics in Fourier analysis. The author then presents the necessary tools from microlocal analysis, and goes on to give a proof of the sharp Weyl formula which he then modifies to give sharp estimates for the size of eigenfunctions on compact manifolds. Finally, the tools that have been developed are used to study the regularity properties of Fourier integral operators, culminating in the proof of local smoothing estimates and their applications to singular maximal theorems in two and more dimensions.

## Book Information

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