

Fourier Integrals in Classical Analysis (Cambridge Tracts in Mathematics)

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Fourier Integrals in Classical Analysis is an advanced monograph concerned with modern treatments 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, at the end, 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.

作者介绍:

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标签

评论

Sogge本人讲课是真好，只不过这本书写得实在是不太好……去年出了新版的，还是有一些小错误。行文里各种唐突，内容上剑指调和与分析四大猜想（虽然只是介绍这四个东西的基础），新版加入了少量Sogge和他的学生近年的成果。

教材啊

上手eigenvalue problem和dispersive equations的好书，偏重geometric view

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书评

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