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Autore	Prestini Elena <1949->
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Nota di contenuto	Foreword -- Preface -- Joseph Fourier: The Man and the Mathematician -- Introduction to Harmonic Analysis -- Telecommunications and Space Exploration -- Fourier Optics and the Synchrotron Light -- Sound, Music and Computers -- Crystallography: Proteins and DNA Structure -- Nuclear Magnetic Resonance: Imaging and Spectroscopy --

Computerized Tomography and the Radon Transform --
Radioastronomy and Modern Cosmology -- Our Friendly Atmosphere:
Methods of Remote Sensing and Climate -- Bibliography -- Index.

Sommario/riassunto

A sweeping exploration of the development and far-reaching applications of harmonic analysis such as signal processing, digital music, optics, radio astronomy, crystallography, medical imaging, spectroscopy, and more. Featuring a wealth of illustrations, examples, and material not found in other harmonic analysis books, this unique monograph skillfully blends together historical narrative with scientific exposition to create a comprehensive yet accessible work. While only an understanding of calculus is required to appreciate it, there are more technical sections that will charm even specialists in harmonic analysis. From undergraduates to professional scientists, engineers, and mathematicians, there is something for everyone here. The second edition of *The Evolution of Applied Harmonic Analysis* contains a new chapter on atmospheric physics and climate change, making it more relevant for today's audience. Praise for the first edition: "...can be thoroughly recommended to any reader who is curious about the physical world and the intellectual underpinnings that have led to our expanding understanding of our physical environment and to our halting steps to control it. Everyone who uses instruments that are based on harmonic analysis will benefit from the clear verbal descriptions that are supplied." — R.N. Bracewell, Stanford University "The book under review is a unique and splendid telling of the triumphs of the fast Fourier transform. I can recommend it unconditionally...Her book is much to be applauded." — SIAM "This is not simply a book about mathematics, or even the history of mathematics; it is a story about how the discipline has been applied ... This book constitutes a significant addition to the library of popular mathematical works, and a valuable resource for students of mathematics." — MAA Reviews.
