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Titolo	Sound-Flow Interactions [[electronic resource] /] / edited by Y. Auregan, A. Maurel, V. Pagneux, J.-F. Pinton
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ISBN	3-540-45880-8
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Descrizione fisica	1 online resource (XVI, 286 p.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 586
Disciplina	534
Soggetti	Acoustics Fluids Fluid mechanics Physics Fluid- and Aerodynamics Engineering Fluid Dynamics Mathematical Methods in Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	A Primitive Approach to Aeroacoustics -- Lectures on the Theory of Vortex-Sound -- Sound—Vortex Interaction in Infinite Media -- Geometrical Acoustics in Moving Media -- Sound Propagation and Scattering in Random Moving Media -- Plasma—Hydrodynamic Analogy for Waves and Vortices in Shear Flows -- New Linear Mechanisms of Acoustic Wave Generation in Smooth Shear Flows (Nonmodal Study) -- Singular Eigenfunctions and an Integral Transform for Shear Flow -- Structural Acoustics with Mean Flow -- Nonlinear Acoustics and Acoustic Chaos.
Sommario/riassunto	The coupling between acoustic waves and fluid flow motion is basically nonlinear, with the result that flow and sound modify themselves reciprocally with respect to generation and propagation properties. As a result this problem is investigated by many different communities, such as applied mathematics, acoustics and fluid mechanics. This book is the result of an international school which was held to discuss the

foundation of sound--flow interactions, to share expertise and methodologies, and to promote cross-fertilization between the different disciplines involved. It consists essentially of a set of pedagogical lectures and is meant to serve not only as a compact source of reference for the experienced researcher but also as an advanced textbook for postgraduate students, and nonspecialists wishing to familiarize themselves in depth, at a research level, with this fascinating subject.

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