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Autore	Kravtsov Yu.A
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Sommario/riassunto

Caustics, Catastrophes and Wave Fields in a sense continues the treatment of the earlier volume 6 "Geometrical Optics of Inhomogeneous Media" in the present book series, by analysing caustics and their fields on the basis of modern catastrophe theory. This volume covers the key generalisations of geometrical optics related to caustic asymptotic expansions: The Lewis-Kravtsov method of standard functions, Maslov's method of canonical operators, Orlov's method of interference integrals, as well as their modifications for penumbra, space-time, random and other types of caustics. All the methods are amply illustrated by worked problems concerning relevant wave-field applications.
