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Altri autori (Persone)	KlettJames D. <1940->
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Note generali	"With an introduction to cloud chemistry and cloud electricity."
Nota di bibliografia	Includes bibliographical references (p. 874-934) and index.
Nota di contenuto	Historical Review -- Microstructure of Atmospheric Clouds and Precipitation -- The Structure of Water Substance -- Equilibrium Between Water Vapor, Water, Aqueous Solutions, and Ice in Bulk -- Surface Properties of Water Substance -- Equilibrium Behavior of Cloud Drops and Ice Particles -- Homogeneous Nucleation -- The Atmospheric Aerosol and Trace Gases -- Heterogeneous Nucleation -- Hydrodynamics of Single Cloud and Precipitation Particles -- Mechanics of the Atmospheric Aerosol -- Cooling of Moist Air -- Diffusion Growth and Evaporation of Water Drops and Snow Crystals -- Cloud Particle Interactions -- Growth of Cloud Drops by Collision, Coalescence and Breakup -- Growth of Ice Particles by Accretion and Ice Particle Melting -- Cloud Chemistry -- Cloud Electricity.
Sommario/riassunto	Cloud physics has achieved such a voluminous literature over the past few decades that a significant quantitative study of the entire field would prove unwieldy. This book concentrates on one major aspect: cloud microphysics, which involves the processes that lead to the formation of individual cloud and precipitation particles. Common practice has shown that one may distinguish among the following additional major aspects: cloud dynamics, which is concerned with the

physics responsible for the macroscopic features of clouds; cloud electricity, which deals with the electrical structure of clouds and the electrification processes of cloud and precipitation particles; and cloud optics and radar meteorology, which describe the effects of electromagnetic waves interacting with clouds and precipitation. Another field intimately related to cloud physics is atmospheric chemistry, which involves the chemical composition of the atmosphere and the life cycle and characteristics of its gaseous and particulate constituents. In view of the natural interdependence of the various aspects of cloud physics, the subject of microphysics cannot be discussed very meaningfully out of context. Therefore, we have found it necessary to touch briefly upon a few simple and basic concepts of cloud dynamics and thermodynamics, and to provide an account of the major characteristics of atmospheric aerosol particles. We have also included a separate chapter on some of the effects of electric fields and charges on the precipitation-forming processes.

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