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Titolo	Complex Monge–Ampère Equations and Geodesics in the Space of Kähler Metrics [[electronic resource] /] / edited by Vincent Guedj
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Nota di contenuto	1.Introduction -- I. The Local Homogenious Dirichlet Problem.-2. Dirichlet Problem in Domains of Cn -- 3. Geometric Maximality -- II. Stochastic Analysis for the Monge-Ampère Equation -- 4. Probabilistic Approach to Regularity -- III. Monge-Ampère Equations on Compact Manifolds -- 5.The Calabi-Yau Theorem -- IV Geodesics in the Space of Kähler Metrics -- 6. The Riemannian Space of Kähler Metrics -- 7. MA Equations on Manifolds with Boundary -- 8. Bergman Geodesics.
Sommario/riassunto	The purpose of these lecture notes is to provide an introduction to the

theory of complex Monge–Ampère operators (definition, regularity issues, geometric properties of solutions, approximation) on compact Kähler manifolds (with or without boundary). These operators are of central use in several fundamental problems of complex differential geometry (Kähler–Einstein equation, uniqueness of constant scalar curvature metrics), complex analysis and dynamics. The topics covered include, the Dirichlet problem (after Bedford–Taylor), Monge–Ampère foliations and laminated currents, polynomial hulls and Perron envelopes with no analytic structure, a self-contained presentation of Krylov regularity results, a modernized proof of the Calabi–Yau theorem (after Yau and Kolodziej), an introduction to infinite dimensional riemannian geometry, geometric structures on spaces of Kähler metrics (after Mabuchi, Semmes and Donaldson), generalizations of the regularity theory of Caffarelli–Kohn–Nirenberg–Spruck (after Guan, Chen and Blocki) and Bergman approximation of geodesics (after Phong–Sturm and Berndtsson). Each chapter can be read independently and is based on a series of lectures by R. Berman, Z. Blocki, S. Boucksom, F. Delarue, R. Dujardin, B. Kolev and A. Zeriahi, delivered to non-experts. The book is thus addressed to any mathematician with some interest in one of the following fields, complex differential geometry, complex analysis, complex dynamics, fully non-linear PDE's and stochastic analysis.