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Titolo	A Complex Analysis Problem Book / / by Daniel Alpay
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ISBN	9783319421810 3319421816
Edizione	[2nd ed. 2016.]
Descrizione fisica	1 online resource (X, 596 p.)
Disciplina	515.9
Soggetti	Functions of complex variables Functions of a Complex Variable
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I Complex Numbers -- Complex Numbers: Algebra -- Complex Numbers: Geometry -- Complex Numbers and Analysis -- Part II Functions of a Complex Variable -- Cauchy–Riemann Equations and C-differentiable Functions -- Cauchy'sTheorem -- Morera, Liouville, Schwarz, et les autres: First Applications -- Laurent Expansions, Residues, Singularities and Applications -- Computations of Definite Integrals Using the Residue Theorem -- Part III Applications and More Advanced Topics -- Harmonic Functions -- Conformal Mappings -- A Taste of Linear System Theory and Signal Processing -- Rational Functions -- Special Functions and Transforms -- Part IV Appendix -- Some Topology -- Some Functional Analysis Essentials -- A Brief Survey of Integration.
Sommario/riassunto	This second edition presents a collection of exercises on the theory of analytic functions, including completed and detailed solutions. It introduces students to various applications and aspects of the theory of analytic functions not always touched on in a first course, while also addressing topics of interest to electrical engineering students (e.g., the realization of rational functions and its connections to the theory of linear systems and state space representations of such systems). It provides examples of important Hilbert spaces of analytic functions (in particular the Hardy space and the Fock space), and also includes a section reviewing essential aspects of topology, functional analysis and

Lebesgue integration. Benefits of the 2nd edition Rational functions are now covered in a separate chapter. Further, the section on conformal mappings has been expanded.