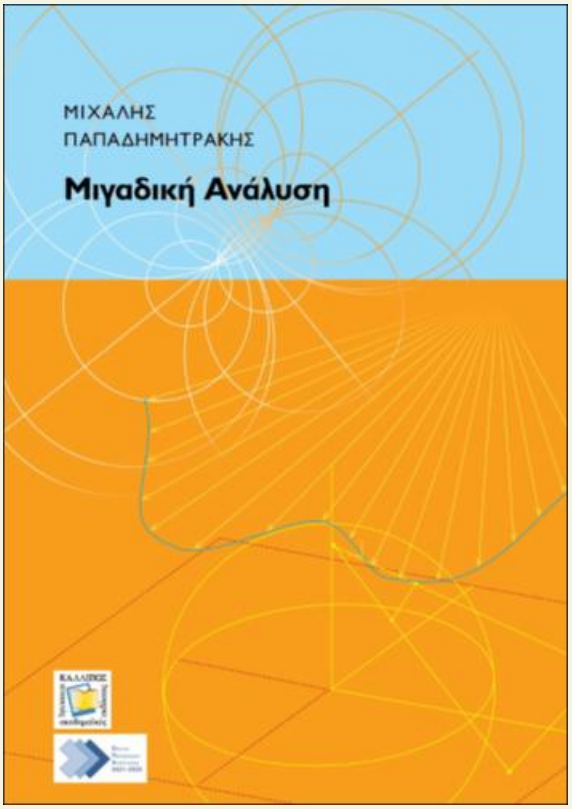

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Abstract

The following topics are presented in this book: complex numbers, arguments, powers, roots, exponential, logarithms, the topology of the plane, compact sets, regions, stereographic projection, contour integrals, analytic functions, Cauchy-Riemann equations, examples of analytic functions (exponential function, analytic branches of roots and of the logarithm), Cauchy's theorems and formulas, infinite differentiability of an analytic function, Liouville's Theorem, Maximum Principle, Morera's Theorem, Schwarz Reflection Principle, series of numbers and functions, power series, Taylor and Laurent series, Identity Principle, Open Mapping Theorem, local behavior of an analytic function, isolated singularities, rotation index, Residue Theorem, Argument Principle, evaluation of integrals, harmonic functions, Poisson formulas, the Dirichlet problem for discs and halfplanes, the Global Cauchy's Theorem, simply connected regions, Riemann's Theorem and examples of conformal mappings.

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