

Povzetek

V prvem delu diplome dokažemo nekatere zahtevnejše izreke v teoriji funkcij ene kompleksne spremenljivke z metodami, ki jih je mogoče uporabiti v teoriji funkcij več kompleksnih spremenljivk. Poblíže si ogledamo $\bar{\partial}$ -enačbo in naredimo kratek uvod v diferencialne forme. V drugem delu si ogledamo holomorfne funkcije več kompleksnih spremenljivk in dokažemo verzije nekaterih klasičnih izrekov, ki veljajo za funkcije več kompleksnih spremenljivk.

Ključne besede: $\bar{\partial}$ -enačba, diferencialne forme, holomorfne funkcije, Rungejev izrek, Weierstrassov izrek, Mittag-Lefflerjev izrek, Cousinovi problemi.

Abstract

In the first part we present the proofs of some theorems in the theory of functions of one complex variable with methods that can be extended to several complex variables. We take a closer look at the $\bar{\partial}$ -equation. We also give a short introduction to differential forms. In the second part we consider holomorphic functions of several complex variables and we prove versions of classical theorems that hold in the case of several variables.

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Keywords: $\bar{\partial}$ -equation, differential forms, holomorphic functions, Runge's theorem, Weierstrass' theorem, Mittag-Leffler's theorem, Cousin problems.

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