THE SECOND MEAN VALUE THEOREM FOR COMPLEX LINE INTEGRAL

Jelena Vujaković[1], Stefan Panić[1], Nataša Kontrec[1]
[1] *University of Priština, Faculty of Sciences and Mathematics*
Lole Ribara 29, Kosovska Mitrovica, Serbia
jelena.vujakovic@pr.ac.rs; stefan.panic@pr.ac.rs; natasa.kontrec@pr.ac.rs.

Abstract

In real iterations, several types of mean value theorems for definite integrals are used. In complex domain, we cannot specifically formulate the mean value theorem of a particular complex line integral $\int_L f(z)dz$ *, since we are unable to give an appropriate geometric interpretation of the integral over the surface below a curve* L *(from* z_0 *to* z_1*). Based on the mean value theorems for a complex line integral in [Vujakovic J., The mean value theorem of line complex integral and Sturm function. Applied Mathematical Sciences 2014; 8 (37): 1817-1827.], we got the idea to formulate the second mean value theorem in complex domain for the product of two analytic functions.*

Keywords: mean value theorem, analytic function, power series, iteration.