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Abstracts

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The Lipschitz Condition and Topology. Rado's Theorem.

Typical result:

Theorem. *If a function is holomorphic in a compact open set $D \subset \mathbb{C}^n$ and satisfies Lip-condition on the boundary ∂D, then it satisfies the same condition* (*and with the same constant*) *on the whole closure $\overline{D}$.*

The proof is based on a purely topological method connected with the possibility of extension any Lip-mappings (theorems of Lebedev and Kirchsbraun). There are different localizations of this assertion. Different generalizations of Rado's theorem are given for holomorphic functions in $\mathbb{C}^n$ and, by the way — in some sense the simplest — proof of it in the first formulation.

References

[1] Yu. Yu. Trokhimchuk. On differential properties of real and complex functions. In: *10-th math. School.* Kyiv: Nauk. dumka, 1974. P. 330–360.

[2] Yu. Yu. Trokhimchuk. In: *Removed singularities of analytical functions.* Kyiv, Nauk. Dumka, 1992. P. 185–188.