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## **Abstract**

In the paper „Local versions of Banach principle and new methods of applications of contractive maps” in a shape of a poster we demonstrate generalizations of local versions of the Banach principle for nonlinear contractions adding new methods of applications of contractive maps.

Generalizations of local versions of Banach principle related to the so called  $\gamma$  - contractions are shown being the main results of this paper. The famous Cauchy problem is considered here for differential equation in Banach space. In the proof of this theorem we use the new method based on some local version of Banach principle (Theorem 2.5)

In this paper it also proved the inverse function theorem both in Banach spaces. The proofs presented here, based on the local versions of Banach principle, are essentially simpler.