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A general Lipschitz Implicit Function Theorem

Opis: In 1982 Y. Yomdin proved a theorem concerning the generic structure of the central set (medial axis). His proof, however, was based on a seemingly nonexistent Lipschitz Implicit Function Theorem that he had assumed erroneously to be a straightforward consequence of the Clarke Lipschitz Inverse Theorem.

The flaw was discovered some 20 years later and due to an inaccurate interpretation of an example of Birbrair and Siersma it has been thought ever since that the theorem might be altogether wrong. As a matter of fact, a stronger assumption (known already to Clarke) than the one Yomdin had gives the right assertion but is not applicable to his Structure Theorem.

In the present talk I will present a full proof of Yomdin's version of the Lipschitz Implicit Function Theorem. Eventually it turned out to be true, much to the astonishment of many. What is more, the proof is very simple.