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On the dynamics of Trokhimchuk inner mappings

Trokhimchuk inner mappings are continuous open isolated surjective mappings. The Trokhimchuk inner mappings with finite number of preimages are considered from a dynamical systems view.

It is shown that a Trokhimchuk inner mapping induces an invariant partitioning on closed sets such that it induces a homeomorphism on the factor space of the partitioning. As a result, the dynamics of Trokhimchuk inner mappings can be decomposed into one of a homeomorphism and one of neutral multivalue map.

[1] Трохимчук Ю. Ю. Дифференцирование, внутренние отображения и критерии аналитичности // Институт математики НАН Украины. Киев. – 2008.