

Toposym 1

Andrzej Lelek

On fixations of sets in Euclidean spaces

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ON FIXATIONS OF SETS IN EUCLIDEAN SPACES

A. LELEK

Wrocław

The fixation of a collection C of sets is here understood to mean a set intersecting each element of C .

Theorem 1. *If C is a collection of disjoint continua lying in a bounded subset of the plane and having diameters greater than 1, then there exists a compact fixation F of C such that $\dim F = 0$.*

Theorem 2. *If C is a collection of components of a compact subset of the n -dimensional Euclidean space (where $n = 2, 3, \dots$) and all the elements of C have diameters greater than 1, then there exists a compact fixation F of C such that $\dim F \leq n - 2$.*

Whether the hypothesis concerning C in theorem 2 can be replaced by one similar to the hypothesis in theorem 1, namely that C is a collection of disjoint continua lying in a bounded subset of the n -dimensional Euclidean space (where $n = 3, 4, \dots$) and having diameters greater than 1, remains an open question.

The proofs of these theorems and some related results will be published in *Fundamenta Mathematicae* in two forthcoming papers of D. ZAREMBA and myself.