

1046-54-1444

Wladyslaw Kulpa and **Andrzej Szymanski*** (andrzej.szymanski@sru.edu), Department of Mathematics, Slippery Rock University, Slippery Rock, PA 16057. *Fixed point theorems for n-continuous L*-operators*. Preliminary report.

An L^* -operator on a topological space X is a function L defined on the set of all non-empty finite subsets of X ($=\text{Fin}(X)$) into $\exp(X)$ satisfying the following condition: (*) If A is in $\text{Fin}(X)$ and $U(x):xA$ is an open cover of X , then there exists a non-empty subset B of A such that the family consisting of $L(B)U(x):xB$, has a non-empty intersection. An L^* -operator L on a topological space X is said to be n -continuous at a point p if each neighborhood U of p contains a neighborhood V of p such that $L(A)$ is contained in U for each at most $n+1$ element subset A of V . Main Theorem. Let X be a Hausdorff space that admits an n -continuous L^* -operator for some $n > 0$. Then each continuous function f from X into X such that the closure of $f(X)$ is a compact subspace of X of the covering dimension at most n has a fixed point. (Received September 15, 2008)