1086-VJ-88 **Rahim G Karimpour*** (rkarimpour@lindenwood.edu), 2600 W. Main Street, Belleville, IL 62034. *Topological Entropy of Non-Archimedean Topologies.*

A Topology γ on a set X is said to be non-Archimedean Topology if it has a basis β such that if B and B' are two members of β, then either $B \cap B' = \varnothing$ or $B \subset B'$, or $B' \subset B$. If $f : X \to X$ is continuous and U an open cover of X, then we define $f^{(-1)}(U)$ as the open cover consisting of the inverse image of every element of U; inductively define f^{-i} for all positive integers i. If we denote the topological entropy of f with respect to U as $\mathrm{ent}(f, U) = \lim_{n\to\infty} n^{-1} \log(N(U \bigvee f^{-1}(U) \bigvee f^{-2}(U) \bigvee \ldots \bigvee f^{-n+1}(U)))$, where $N(U)$ is the number of sets in a sub-cover of minimal cardinality and for any two open covering U and V, $U \bigvee V = \{u \cap v : u \in U, v \in V\}$, then we show that if X is a compact non-Archimedean topological space, then for any homeomorphism $h : X \to X$ and any open covering U, $\mathrm{ent}(h, U) = 0$.

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