

Monotone equivalence of dendrites

Abstract. A *dendrite* is a type of generalized tree. More formally, it is a locally connected, uniquely arcwise connected, compact metric space. Typically in topology, we classify objects by homeomorphisms. A *homeomorphism* is a one-to-one, onto continuous function whose inverse is also continuous. In this talk, I will discuss how to classify dendrites under monotone equivalence. A continuous function $f : X \rightarrow Y$ is *monotone* if $f^{-1}(y)$ is connected for each $y \in Y$. We say that two dendrites X and Y are *monotone equivalent* if there exist monotone and onto functions $f : X \rightarrow Y$ and $g : Y \rightarrow X$. Consequences of this classification will also be discussed.