

In this thesis, we present solutions to several problems concerning one-dimensional continua. We give an inductive description of graphs with a given disconnection number, this answers a question of S. B. Nadler. Further, we state a topological characterization of the Sierpiński triangle. In the study of shore sets in dendroids and  $\lambda$ -dendroids we obtain several positive results and we also provide some counterexamples. By doing this, we continue in the recent work of several authors. We are also dealing with the notion of  $\frac{1}{2}$ -homogeneity and we prove that up to homeomorphism there are only two  $\frac{1}{2}$ -homogeneous chainable continua with just two end points. We present also a new elegant proof of a classical theorem of Waraszkiewicz.