Complexity of η-od-like continua

Hugo Adrian Maldonado Garcia (Universidad Nacional Autónoma de México)
`hugo_gcn@hotmail.com`

Abstract: W. Lewis asked in *Indecomposable Continua. Open problems in topology II*, whether there exists, for every $\eta \geq 2$, an atriodic simple $(\eta + 1)$-od-like continuum which is not simple η-od-like and, if such continuum exists, whether it has a variety of properties such as being planar or being an arc-continuum, among others. Some partial results have been obtained by W.T. Ingram, P. Minc, C.T. Kennaugh and L. Hoehn. In each case, the most substantial challenge is in proving that a continuum is not T-like, for a given tree T. We present the notion of a combinatorial η-od cover of a graph, a tool which may enable one to prove that certain examples of continua are not η-od-like. Also, we suggest the construction of an atriodic simple $(\eta + 1)$-od-like continuum which is not simple η-od-like and has properties such as being planar, being an arc-continuum, and span zero (This is a work in progress).