

1135-03-2506

Francis Adams* (fadams@gsu.edu), Georgia State University, Atlanta, GA 30306. *The Loose Number of Graphs on Topological Spaces.*

Given a graph G on a topological space X , we define the loose number of G , $\lambda(G)$. This invariant depends on the graph-theoretic properties of G as well as the topology on the vertex set X . When X is separable metric, $\lambda(G)$ lies between two well-known graph invariants, the chromatic number and the coloring number. Evaluating this cardinal leads to interesting connections with forcing, infinitary combinatorics, descriptive set theory, and topology. We discuss these connections and provide many examples. Much of this work is joint with Jindrich Zapletal. (Received September 26, 2017)