Uniformly Connected Graphs

Drake Olejniczak, Western Michigan University

One of the most fundamental properties that a graph can possess is that of being connected. Two vertices u and v of a graph G are connected if G contains a $u - v$ path. The graph G itself is connected if every two vertices of G are connected. The well-studied concept of connectivity provides a measure on how strongly connected a graph may be. There are many other degrees of connectedness for a graph. In many instances, graphs under study are required to have each pair of its vertices connected by a path with some prescribed property. In this work, we introduce a concept of uniformly connected graphs which combines several features of connectedness of graphs in the literature and present results and questions in this area of research. This is joint work with Gary Chartrand and Ping Zhang.

Keywords: connectedness, uniformly connected graphs