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The average connectivity of minimally 2-connected graphs

The connectivity between a pair u, v of vertices in a graph equals the maximum number of pairwise internally disjoint u - v paths. The average connectivity, $\bar{\kappa}(G)$ of a graph G , is the average connectivity between pairs of vertices taken over all pairs. Minimally 2-connected graphs with maximum average connectivity are characterized. It is shown that $\bar{\kappa}(G) \leq 9/4$ if G is minimally 2-connected. For a graph G , $\bar{\kappa}_{\max}(G)$ is the maximum average connectivity among all orientations of G . We obtain upper and lower bounds for $\bar{\kappa}_{\max}(G)$ and for $\bar{\kappa}_{\max}(G)/\bar{\kappa}(G)$ for all minimally 2-connected graphs G . Sharpness for the various bounds is discussed.