

“Intersections” of largest circuits in matroids

Talmage James Reid
The University of Mississippi

Abstract

Scott Smith conjectured in 1979 that distinct longest cycles of a k -connected graph meet in at least k vertices when $k \geq 2$. This conjecture is still open. Reid and Wu generalized the conjecture to matroids by considering largest circuits. A result of Seymour that appears in a paper of Ding, Oporowski, and Oxley establishes the matroid conjecture for the case $k = 2$. Results that generalize the conjecture for $k = 2$ were given by McMurray, Reid, Wei, and Wu. Here we consider the case where the circuits are almost largest circuits in the matroid. This is joint work with Bryan Williams.