

# Strongly Chordal $k$ -trees

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A graph is a  $k$ -tree if it is chordal, every maximal clique has order  $k + 1$  and every minimal separating set has order  $k$ . In this talk, we consider the subset of  $k$ -trees that are also strongly chordal. We give some preliminary results on the structure of such graphs and prove that every strongly chordal  $k$ -tree with toughness  $\tau > \frac{k+1}{4}$  is hamiltonian for  $k \geq 2$ . This result is best possible for  $k = 3$  and seemingly better than best possible for  $k = 2$ , but has considerable room for improvement when  $k$  is large.