Weak star reduciblity in Coxeter groups

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Abstract: Star operations, introduced by D. Kazhdan and G. Lusztig in 1979, are a type of raising and lowering operation performed on the elements of a Coxeter group W. We say that W is star reducible if every fully commutative element can be reduced to a product of commuting generators via lowering star operations. This concept generalizes the notion of cancellability which arises in the work of C.K. Fan. The star reducible Coxeter systems were classified by R.M. Green. In this talk, we will define a weaker generalization of Fan's cancellability, called weak star reducible, and we classify the weak star irreducible elements in types B and affine C. I will define all of the necessary terms in the talk.