Coxeter Groups Seminar

UNIVERSITY OF NOTRE DAME
Department of Mathematics

Speaker: Weijia Wang
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Tuesday, September 29, 2015
10:00 AM
258 Hurley Hall

Title: Infinitely Long Words of the Affine Weyl Groups

Abstract:

For an infinite Coxeter system (W,S), the infinitely long reduced words (modulo braid relation) form an accessible subclass of the set of "infinitely long elements" of W. In this talk we will talk about the semi-lattice property of the posets consisting the infinitely long words and W under the extended weak order. Then by establishing a bijection between the set of infinitely long words of an affine Weyl group and certain biclosed sets of its positive system, we show that all the infinitely long elements of rank 3 affine Weyl groups under the extended weak order form a complete algebraic ortholattice, a property which generalizes the well-known fact that W is a complete lattice under the weak order and which is conjectured true in general by Dyer.