1064-05-194   **Drew Armstrong** and **Brendon Rhoades***, brhoades@math.mit.edu. *The Shi arrangement and the Ish arrangement.*

The Shi arrangement is a hyperplane arrangement introduced by Shi in 1985 in his study of the Kazhdan-Lusztig cellular structure of the affine type A Weyl group. The Ish arrangement was introduced last year by Armstrong and can be used to define a q, t-Catalan bistatistic on the dominant Shi regions. We show that the Shi and Ish arrangements share many combinatorial properties including characteristic polynomials and the joint distribution of (number of ceilings, degrees of freedom) on their regions. We show that our results hold in the more general context of 'deleted' Shi and Ish arrangements. We give a refinement of a product formula of Kreweras which counts noncrossing partitions of [n] by 'type' which was predicted from the study of the Ish arrangement. This is mostly joint work with Drew Armstrong at the University of Miami. (Received September 08, 2010)