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Drew Armstrong* (armstrong@math.miami.edu), University of Miami, Department of Mathematics, 1365 Memorial Drive, Ungar 529, Coral Gables, FL 33146. *Shi arrangements and diagonal harmonics*. Preliminary report.

We define two statistics on the chambers of a Shi hyperplane arrangement, and conjecture that these encode the bigraded Hilbert series of the ring of diagonal harmonics. We prove that our conjecture is equivalent to a conjecture of Haglund and Loehr involving statistics on labeled lattice paths. We discuss versions of these statistics for extended Shi arrangements and the bounded chambers of these arrangements. (Received August 29, 2009)