1086-20-471   **Marcus Bishop*** (`marcus.bishop@rub.de`). *Computations for Coxeter arrangements and Solomon's descent algebra.*

We discuss a refinement of a conjecture of Lehrer and Solomon expressing the characters of a finite Coxeter group W afforded by the homogeneous components of its Orlik-Solomon algebra as sums of characters induced from linear characters of centralizers of elements of W. Our refined conjecture also relates the Orlik-Solomon characters above to the terms of a decomposition of the regular character of W related to its descent algebra. A consequence of our conjecture is that both the regular character of W and the character of its Orlik-Solomon algebra have parallel, graded decompositions as sums of characters induced from linear characters of centralizers of elements of W, one for each conjugacy class of elements of W. The refined conjecture has been proved for symmetric and dihedral groups and in this talk we discuss the algorithmic tools we used to prove the conjecture computationally for the finite Coxeter groups of rank at most six. (Received September 04, 2012)