

1135-05-429

Georgia Benkart, Laura Colmenarej, Pamela E Harris, Rosa Orellana, Greta Panova and **Anne Schilling*** (anne@math.ucdavis.edu), Department of Mathematics, University of California, One Shield Avenue, Davis, CA 95616, and **Martha Yip**. *A minimaj-preserving crystal on ordered multiset partitions.*

We provide a crystal structure on the set of ordered multiset partitions, which recently arose in the pursuit of the Delta Conjecture. This conjecture was stated by Haglund, Remmel and Wilson as a generalization of the Shuffle Conjecture. Various statistics on ordered multiset partitions arise in the combinatorial analysis of the Delta Conjecture, one of them being the minimaj statistic, which is a variant of the major index statistic on words. Our crystal has the property that the minimaj statistic is constant on connected components of the crystal. In particular, this yields another proof of the Schur positivity of the graded Frobenius series of the generalization $R_{n,k}$ due to Haglund, Rhoades and Shimozono of the coinvariant algebra R_n . The crystal structure also enables us to demonstrate the equidistributivity of the minimaj statistic with the major index statistic on ordered multiset partitions. (Received September 01, 2017)