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**Monica Vazirani\*** (mjvazirani@ucdavis.edu), Department of Mathematics, One Shields Ave, Davis, CA 95616-8633, and **Chris Berg**. *Enumerating Fayers partitions at a root of unity*. Preliminary report.

The irreducible representations of the symmetric group  $S_n$  are indexed by partitions of  $n$ . One can ask which of these representations remain irreducible on reduction mod  $p$ , or more generally, which modules for the related Hecke algebra stay irreducible on specialization to a root of unity. This was answered by Fayers in general, and James-Mathas for those modules not equal to their own radical (the  $p$ -regular partitions).

We give here two new combinatorial descriptions of those partitions. The first is related to the spin of corresponding ribbon tableaux. The second is given in the context of crystal graphs. (Received February 25, 2007)