

Meeting: 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

1003-05-1259 **Sarah E Iveson***, Department of Mathematics, 2074 East Hall, Ann Arbor, MI 48109. *Inversions within restricted fillings of Young Tableaux.*

We study inversions within restricted fillings of Young tableaux which describe geometric properties of a certain subvarieties of the full flag variety. We define the dimension of a filling in terms of certain inversions which occur. We describe all the zero-dimensional fillings and give the number of such fillings in terms of permutations of a multiset which have a particular descent set. We also give an upper bound on the dimension of any allowed filling of a multitableau and show that this upper bound is achieved. In a special case which is an example of interest in numerical analysis, we give a smaller upper bound and show that it is in fact achieved. We also give a lower bound on the number of inversions given an extra condition and conjecture that when this condition holds it gives the maximum possible dimension. (Received October 04, 2004)