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**Axel Hultman, Svante Linusson** and **John Shareshian\*** ([shareshi@math.wustl.edu](mailto:shareshi@math.wustl.edu)), 1 N. Brookings Dr., St. Louis, MO 63130, and **Jonas Sjöstrand**. *Inversion arrangements and lower intervals in the Bruhat order.*

For  $w \in S_n$ , let  $A_w$  be the hyperplane arrangement in  $\mathbf{R}^n$  determined by the linear equations  $x_i = x_j$  for all inversions  $(i, j)$  of  $w$ . We proved the conjecture of A. Postnikov that

(1) the number of regions in the complement of  $A_w$  is at most the number of elements lying weakly below  $w$  in the Bruhat order on  $S_n$ , and

(2) equality holds in (1) if and only if  $w$  avoids all of the patterns 4231, 35142, 425134 and 351624.

I will explain our proof of (1). (Received March 09, 2008)