1038-05-324 **Axel Hultman**, **Svante Linusson** and **John Shareshian*** (shareshi@math.wustl.edu), One N. Brookings Drive, St. Louis, MO 63130, and **Jonas Sjöstrand**. *Inversion arrangements and lower intervals in the Bruhat order.*

Let $w \in S_n$ and let $A_w$ be the hyperplane arrangement in $R^n$ determined by the equations $x_i = x_j$ for all inversions $(i, j)$ of $w$. We proved a conjecture of A. Postnikov, which says that

(1) The number elements in the ideal of the Bruhat order generated by $w$ is at most the number of connected components of the complement of $A_w$ in $R^n$, and

(2) equality holds in (1) if and only if w avoids all of the patterns 4231, 35142, 42513, and 351624.

I will explain our proof of (1), which uses EL-shellability and Zaslavsky's region counting theorem. (Received February 12, 2008)