Axel Hultman (hultman@math.kth.se), Svante Linusson (linusson@math.kth.se), John Shareshian* (shareshi@math.wustl.edu) and Jonas Sjöstrand (jonass@kth.se). Inversion arrangements and the Bruhat order.

A. Postnikov conjectured that

- (1) the size of the ideal in the Bruhat order (of type A) generated by a permutation w is at most the number of regions in the complement of the arrangement consisting of hyperplanes of the form $x_i = x_j$ for all inversions (i, j) in w, and
- (2) the size of the given ideal equals the number of regions in the arrangement complement if and only if w avoids the patterns 4231, 35142, 42513 and 351624.

We proved (2) as stated, along with a restatement of (1) that applies to all finite Coxeter groups. (Received September 11, 2007)