

1152-22-99

**William M. McGovern\***, Box 354350, University of Washington, Seattle, WA 98195. *Closures of  $O_n$  orbits in flag varieties of type  $A$ .*

We give a necessary and sufficient pattern avoidance condition for the conjugates of the bottom vertex in the Bruhat graph attached to an  $O_n$  orbit in a flag variety of type  $A$  to have degree equal to the rank of this graph as a poset. This condition is shown to be equivalent to the rational smoothness of the orbit closure; we also give a necessary pattern avoidance criterion for the orbit closure to be smooth. (Received August 27, 2019)