

1087-05-205

Alexander R. Miller* (mill11966@math.umn.edu), School of Mathematics, University of Minnesota, Minneapolis, MN 55455. *On the rank sizes of a differential poset.*

We use two innocent-looking chains in a differential poset to show that the rank sizes are strictly increasing. This answers a question of Stanley and provides evidence in support of a conjecture of the speaker and Reiner which asserts the following strong property for the up and down maps U and D in a differential poset: $DU + tI$ and $UD + tI$ have Smith normal forms over $\mathbb{Z}[t]$. (Received December 04, 2012)