

1145-05-1677

**Zachary Hamaker\*** (hamaker@umich.edu) and **Victor Reiner**. *Weak order and descents for monotone triangles.*

Monotone triangles are a rich extension of permutations that biject with alternating sign matrices. This talk will introduce generalizations of the weak order and descent sets for permutations to monotone triangles. It will then explain why linear extensions of the weak order gives rise to shelling orders on a poset, recently introduced by Terwilliger, whose maximal chains biject with monotone triangles; among these shellings are a family of EL-shellings. The weak order is built via an action of the 0-Hecke algebra of Type A on monotone triangles. This leads to a natural notion of descent set for monotone triangles, which will also be discussed. (Received September 23, 2018)