

1176-14-322

Rahul Singh* (rahul.sharpeye@gmail.com). *Conormal varieties of covexillary (matrix) Schubert varieties*. Preliminary report.

Recall that a permutation is called covexillary if it avoids the pattern 3412. Given a covexillary matrix Schubert variety M_w , we construct an open embedding $M_w \hookrightarrow Gr_v$ of M_w into some Grassmannian Schubert variety, and consequently deduce that any invariant of singularity for covexillary Schubert varieties can be computed from the Grassmannian case. In particular, this shows that the characteristic cycle of a covexillary Schubert variety is irreducible, and shines new light on a result of Lascoux calculating the Kazhdan-Lusztig polynomial for covexillary Schubert varieties. We further use this embedding to develop a system of defining equations for the conormal varieties of covexillary Schubert and matrix Schubert varieties, and discuss possible applications towards identifying defining equations for certain orbital varieties. (Received January 25, 2022)