

1158-05-148

Zachary Hamaker* (zhamaker@ufl.edu), **Oliver Pechenik** (pechenik@umich.edu) and **Anna Weigandt** (weigandt@umich.edu). *Grobner degeneration through ice.*

Matrix Schubert varieties are a vast generalization of determinantal varieties, which have been studied since the 19th century in the context of degeneracy loci. We will discuss how Grobner degeneration is used to compute properties of these varieties. Grobner degenerations are determined by term orders. Historically, people used diagonal term orders, but a major breakthrough by Knutson and Miller showed that antidiagonal terms orders are more natural, and used them to describe the Hilbert series of these varieties combinatorially. Deficiencies of diagonal term orders were discussed in work by Knutson, Miller and Yong. I will outline this history and discuss joint work with Oliver Pechenik and Anna Weigandt where we make new progress with diagonal term orders, including a conjectural way forward in this setting using alternating sign matrices. (Received February 28, 2020)