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Top degree of symmetric Grothendieck polynomials and Castelnuovo-Mumford regularity

We give an easily computable formula for the top degree of the Grothendieck polynomial of a Grassmannian permutation using work of Lenart, and a closely related easily computable formula for the Castelnuovo-Mumford regularity of coordinate rings of affine open patches of Grassmannian Schubert varieties. We connect the latter formula to a conjecture of Kummini-Lakshmibai-Sastry-Seshadri.