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Section:

4. Algebraic Geometry

1991 MS Classification:

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Lattice polytopes for certain Demazure modules of sl_{n+1}

We present results on the existence of lattice convex polytopes associated to certain Demazure modules of sl_{n+1} in view of constructing degenerations of generalized Schubert varieties of $SL(n+1)$ into toric varieties. The class of Schubert varieties presented here is strictly bigger than the one obtained by N. Gonciulea and V. Lakshmibai, see Transformation Groups, volume 1, no. 3 (1996) 215-248. In particular, it includes all generalized Schubert varieties in sl_3. Applications to the theory of representation will be presented. These results are joint work with R. Dehy.