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A combinatorial rule for (co)minuscule Schubert calculus

We prove a root system uniform, concise and positive combinatorial rule for Schubert calculus of *minuscule* and *cominuscule* flag manifolds G/P (the latter are also known as *compact Hermitian symmetric spaces*). We connect this geometry to the poset combinatorics of [Proctor '04], thereby giving a generalization of the [Schützenberger '77] jeu de taquin formulation of the Littlewood–Richardson rule, which computes the intersection numbers of Grassmannian Schubert varieties. Our proof introduces *cominuscule recursions*, a general technique to relate the numbers for different Lie types.

I will also briefly discuss connections of the rule to (geometric) representation theory, specifically to Kostant's study of Lie algebra cohomology, and separately, the geometric Satake correspondence of Ginzburg, Mirković–Vilonen *et al.*

This is based on joint work with Hugh Thomas; see [math.AG/0608276](https://arxiv.org/abs/math/0608276).