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Curve neighborhoods of Schubert varieties

If X is a Schubert variety in a flag manifold G/P , its curve neighborhood $X(d)$ is defined to be the union of the rational curves of degree d passing through X . It turns out that $X(d)$ is also a Schubert variety, and I will explain how to identify it explicitly in terms of the combinatorics of the Weyl group and of the associated (nil-)Hecke product. If time remains, I will also show how this yields a new, natural proof of the Chevalley formula in the quantum cohomology of flag manifolds. This is joint work with A. Buch and uses previous results joint with A. Buch, P.E. Chaput and N. Perrin.