1047-05-280   **Victor Reiner** and **Alexander Woo*** (`woo@stolaf.edu`), MSCS Department, St. Olaf College, 1520 St. Olaf Ave., Northfield, MN 55057, and **Alexander Yong**. *Presenting the cohomology of a Schubert variety.*

We extend the short presentation of the cohomology ring of a generalized flag manifold, originally due to Borel, to a relatively short presentation of the cohomology of any of its Schubert varieties. Our result is stated in a root-system uniform manner, by introducing the essential set of a Coxeter group element, generalizing and giving a new characterization of Fulton's definition for permutations. Bounds for the number of generators can then be obtained in terms of Kazhdan-Lusztig polynomials for the essential set. Further refinements are obtained in type A_n, which specialize to an improvement upon Gasharov and Reiner's generators for the class of Schubert varieties defined by inclusions (of which smooth Schubert varieties are a subclass). (Received January 30, 2009)