Chayapa Darayon* (darayon2@illinois.edu). Arithmetically Gorenstein and Gorenstein
Richardson Varieties in the Grassmannian. Preliminary report.

Combinatorial criteria for when a Schubert variety in the Grassmannian is Gorenstein and when it is arithmetically
Gorenstein have been discovered and are equivalent. Here we study a Richardson variety which is defined to be the
intersection of a Schubert variety and an opposite Schubert variety. We present combinatorial characterizations for
which Richardson varieties in the Grassmannian are Gorenstein and arithmetically Gorenstein. The two criteria are not
equivalent unlike the Schubert variety case. (Received February 19, 2013)