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**Matthew C Zaremsky\*** (mcz5r@virginia.edu). *Chevalley groups and Weyl group representatives.*

Let  $K$  be a field, and  $G(K)$  a Chevalley group over  $K$ . Let  $(B, N)$  be the standard  $BN$ -pair in  $G(K)$ , with  $T = B \cap N$  and Weyl group  $W = N/T$ . In joint work with Peter Abramenko, we prove that there exist elements  $w \in W$  such that all representatives of  $w$  in  $N$  have finite order; in fact this order is independent of the choice of representative. This will have a direct application to transitivity properties of groups acting on buildings. (Received September 04, 2009)