1086-11-641 **David J. Grynkiewicz*** (diambri@hotmail.com), Institut für Mathematik, Heinrichstrasse 36, 8010 Graz, Austria, and **Alfred Geroldinger**. *The Large Davenport Constant for Non-Abelian Groups.*

By a sequence over a group G, we mean a finite sequence of terms from G which is unordered, and we say that it is product-one if its terms can be ordered so that their product is the identity. The product-one sequences form a monoid called the Block monoid of G. The *small Davenport constant* $\mathsf{d}(G)$ is the maximal integer ℓ such that there is a sequence over G of length ℓ which has no nontrivial, product-one subsequence. The *large Davenport constant* $\mathsf{D}(G)$ is the maximal length of a minimal product-one sequence—this is the maximal length of an atom in the Block monoid over G, i.e., the maximal length of a product-one sequence which cannot be factored into two nontrivial, product-one subsequences. It is easily observed that $\mathsf{d}(G) + 1 \leq \mathsf{D}(G)$, and if G is abelian, then equality holds and the constant $\mathsf{D}(G)$ is also known to be equal to the Noether constant $\beta(G)$ from Invariant Theory. However, for non-abelian groups, these constants can all differ significantly.

The goal of this talk is present various upper bounds for $\mathsf{D}(G)$ in the non-abelian setting. In the case when G possesses a cyclic, index 2 subgroup, we will present an exact value. (Received September 10, 2012)