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Nilpotent symmetric units in group rings

The group ring KG of a group G over a field K has a natural involution $*$ sending each group element to its inverse. The elements fixed by this involution are said to be symmetric.

We will examine the symmetric units in KG , and discuss the conditions under which they satisfy a group identity. In particular, we will explore the conditions under which the symmetric units are nilpotent. Until recently, all of the known results concerned torsion groups. However, new results allow us to consider groups with elements of infinite order.