Torsion-free group without unique product property

Markus Steenbock

Abstract: We discuss Rips and Segev's construction of a torsion-free group without unique product property. This is interesting in connection with Kaplansky's zero-divisor problem, whether or not the group ring over a torsion-free group has no zero-divisor. In fact, the answer is positive for any unique product group. The first hour is on Kaplansky's zero-divisor problem in general, followed by a brief introduction to small cancellation theory.