

Michael Rosen
Brown University, USA

Generating the Maximal Abelian Extension of A Global Function Field

Let K be a function field in one variable over a finite constant field. Building on work of V.G. Drinfeld, David Hayes showed how to generate the maximal abelian extension of K by adjoining the torsion points of a carefully constructed Drinfeld module defined over a version of the Hilbert class field of K . This theorem can be thought of as a generalized Kronecker-Weber theorem in the function field case. Hayes' proof uses class field theory. We will describe an "elementary" proof of this theorem which relies on the theory of Lubin-Tate formal groups and a generalization of this theory due to E. de Shalit.