Special Values of L-functions over Drinfeld Modules

Abstract:
We work out an explicit theory for the shtuka function of rank 1 sign-normalized Drinfeld modules over the function field of an elliptic curve. Using these explicit formulas, we obtain a product formula for the fundamental period of the exponential function associated to the Drinfeld module. We also find identities for deformations of reciprocal sums and as a result prove special value formulas for L-series over the function field.