

# An analog of Ferrero-Washington theorem over the Carlitz-cyclotomic extension

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We use the proven Iwasawa Main Conjecture for the class group of the Carlitz cyclotomic extension at the prime  $\mathfrak{p}$  of  $\mathbb{F}_q[T]$  and a link between the Stickelberger element and a  $\mathfrak{p}$ -adic  $L$ -function to prove a close analog of Ferrero-Washington theorem for the Carlitz cyclotomic extension.

The results of the talk are included in a joint work with Bruno Anglès (Univ. de Caen), Andrea Bandini (Univ. degli Studi di Parma) and Ignazio Longhi (Univ. Xi'an Jiaotong-Liverpool), see (*Iwasawa Main Conjecture for the Carlitz cyclotomic extension and applications*, arXiv:1412.5957.) (MSC: 11R60; 11R23; 11M38; 11S40; 11R58; 14G10; 11G45; 14F30.)