A new tower with good $p$-rank meeting Zink's bound

In this article we investigate the asymptotic $p$-rank of a new tower of function fields defined over cubic finite fields. Its limit meets Zink's bound, but the new feature of this tower is that its asymptotic $p$-rank for small cubic finite fields is much smaller than that of other cubic towers for which the asymptotic $p$-rank is known. This is of independent interest, but also makes this new tower more interesting for theoretical applications in cryptography.
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.956 SNIP 1.023
Scopus rating (2007): SJR 0.79 SNIP 0.96
Scopus rating (2006): SJR 0.891 SNIP 1.013
Scopus rating (2005): SJR 0.904 SNIP 1.043
Scopus rating (2004): SJR 1.054 SNIP 1.241
Scopus rating (2003): SJR 1.212 SNIP 1.293
Scopus rating (2002): SJR 1.179 SNIP 1.214
Scopus rating (2001): SJR 1.133 SNIP 1.206
Scopus rating (2000): SJR 1.434 SNIP 1.265
Scopus rating (1999): SJR 1.405 SNIP 1.105
Original language: English
Keywords: Tower of function fields, Number of rational places, Ihara's constant, Cartier operator, P-rank
Electronic versions:
p_rank_abn.pdf
DOIs:
10.4064/aa8388-6-2016
Source: PublicationPreSubmission
Source-ID: 123684725
Research output: Research - peer-review › Journal article – Annual report year: 2017