Cornell University Library

We gratefully acknowledge support from the Simons Foundation and member institutions

arXiv.org > math > arXiv:1107.0684

Search or Article-id

(Help | Advanced search)

All papers | Go!

Mathematics > Number Theory

On Colmez's product formula for periods of CM-abelian varieties

Andrew Obus

(Submitted on 4 Jul 2011 (v1), last revised 7 Sep 2012 (this version, v2))

Colmez conjectured a product formula for periods of abelian varieties with complex multiplication by a field K, analogous to the standard product formula in algebraic number theory. He proved this conjecture up to a rational power of 2 for K/Q abelian. In this paper, we complete the proof of Colmez for K/Q abelian by eliminating this power of 2. Our proof relies on analyzing the Galois action on the De Rham cohomology of Fermat curves in mixed characteristic $(0, 2)$, which in turn relies on understanding the stable reduction of $Z/2^n$-covers of the projective line, branched at three points.

Comments:	Final version, 16 pp., to appear in Math. Ann. The final publication is available at this http URL
Subjects:	**Number Theory (math.NT)**; Algebraic Geometry (math.AG)
MSC classes:	11G15, 11G20, 14H25, 14H30, 14K22, 32G20
Cite as:	**arXiv:1107.0684** [math.NT]
	(or **arXiv:1107.0684v2** [math.NT] for this version)

Submission history

Which authors of this paper are endorsers?