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Erratum

The rank of étale cohomology of varieties over *p*-adic or number fields

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In [1] Theorem 1(i) I gave a lower bound for the rank of *p*-adic cohomology of varieties over number fields. In Theorem 1(ii) (*loc.cit.*) I claimed that this bound is "almost always" equal to the rank (see [1] for the precise statement). I cannot prove this last assertion. The mistake lies in the proof of Prop. 3(b). On p. 121, line -7, I claimed that the *p*-cohomological dimension on the profinite group H is one, when I know this property only for its maximal pro-*p* quotient H_p. Part (i) of Theorem 1 remains true.

This mistake was pointed out by U. Jannsen. His paper [2], §3, provides a careful analysis of this problem. In particular, formula (30) in [2] is the correct (weakened) version of Theorem 1(i) in [1], at the present state of our knowledge. Furthermore, in [2], Lemma 8, U. Jannsen gives several conditions which would imply the result as I stated it.

I thank him very much for telling me about these facts.

References

1. C. Soulé: The rank of étale cohomology of varieties over *p*-adic or number fields. *Comp. Math.* 53 (1984) 113–131.
2. U. Jannsen: On the *l*-adic cohomology of varieties over number fields and its Galois cohomology. Submitted to the *Proceedings of the MSRI Workshop on Galois Groups* (1987).