

1139-11-313

**Sara Checcoli\***, 100, rue des maths, 38610 Gières, Grenoble, France. *Fields of algebraic numbers with non-uniformly bounded local degrees and their Galois groups.*

It is known that, if  $K$  is a number field and  $L/K$  is an infinite Galois extension, then the local degrees of  $L$  are uniformly bounded at all rational primes if and only if  $\text{Gal}(L/K)$  has finite exponent.

Also motivated by some problems concerning the Bogomolov property (on the existence of a lower bound for the elements of non-zero height in a field), one can ask whether the simple non-uniform boundedness of the local degrees is still equivalent to some (weaker) group theoretical property.

We will show that this is not the case in general, by exhibiting several groups that admit two different realisations over a given number field, one with bounded local degrees at a given set of primes and one with infinite local degrees at the same primes. (Received February 15, 2018)