THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Algebraic Geometry and Representation Theory Seminar

Room 261, Ziskind Building
on Wednesday, Mar 30, 2016
at 11:15

moved into room 155

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p-extensions of local fields with Galois groups of nilpotent class <p

Abstract:

Let K be a complete discrete valuation field with finite residue field of characteristic p>0. Let G be the absolute Galois group of K and for a natural M, let G(M) be the maximal quotient of G of nilpotent class <p and period p^M. Then G(M) can be identified with a group obtained from a Lie Z/p^M-algebra L via (truncated) Campbell-Hausdorff composition law. Under this identification the ramification subgroups in upper numbering G(M)^(v) correspond to ideals L^(v) of L. It will be explained an explicit construction of L and the ideals L^(v). The case of fields K of characteristic p was obtained by the author in 1990's (recently refined), the case of fields K of mixed characteristic requires the assumption that K contains a primitive p^M-th root of unity (for the case M=1 cf. Number Theory Archive).