מכון ויצמן למדע

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

Victor Abrashkin
University of Durham

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).