Algebra and number theory Seminar

The special fiber of a parahoric group scheme

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Abstract: Let G be a connected and reductive algebraic group over the field of fractions K of a complete discrete valuation ring A with residue field k. Bruhat and Tits have associated with G certain smooth A-group schemes P — called parahoric group schemes — which have generic fiber $P/K = G$. The special fiber P/k of such a group scheme is a linear algebraic group over k, and in general it is not reductive.

In some recent work, it was proved that P/k has a Levi factor in case G splits over an unramified extension of K. Even more recently, this result was (partially) extended to cover the case where G splits over a tamely ramified extension.

The talk will discuss these results and some applications. In particular, it will mention possible applications to the description of the scheme-theoretic centralizer of suitable nilpotent sections in $\mathrm{Lie}(P)(A)$.

Tuesday, October 26, 2010, 3:00 pm
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