1089-20-256 **George J McNinch*** (mcninchg@member.ams.org), Department of Math, Tufts University, 503 Boston Ave, Medford, MA 02155. *The existence and descent of Levi factors.*

Let G be a linear algebraic group over a field k, and suppose that the geometric unipotent radical R of G is defined over k. A Levi factor of G is a reductive k-subgroup M of G which is a complement to R. When the characteristic of k is positive, G may fail to have a Levi factor. In this talk, we report on results concerning Levi factors.

For a field extension L of k, suppose that the group G/L obtained by base-change has a Levi factor ("defined over L"). When G is connected, it doesn't seem to be known whether G must have a Levi factor ("defined over k"), even when L is a separable (or Galois) extension of k. In this talk, we describe some conditions which guarantee that G will have a Levi factor.

Finally, suppose that k is perfect and that G is the special fiber of a parahoric group scheme associated with a connected reductive group H over a local field K. Some previous work of the speaker showed that G has a Levi factor whenever H splits over an unramified extension of K. Following a suggestion of G. Prasad, we show in some recent work that G/L has a Levi factor where L is an algebraic closure of the residue field k, provided that H splits over a tamely ramified extension of K. (Received February 17, 2013)