1048-11-363 **Bart de Smit*** (`desmit@math.leidenuniv.nl`), Mathematisch Instituut, Universiteit Leiden, Postbus 9512, 2300RA Leiden, Netherlands. *On the valuation criterion for normal basis generators.* Preliminary report.

We report on progress with the valuation criterion for normal basis generators, which was first conceived by Nigel Byott and Griff Elder (2007). Suppose L/K is Galois extension of local fields which is totally wildly ramified, and let d be the valuation of the different. If L has positive characteristic then the conjugates of any element in L of valuation $-d-1$ form a basis of L as a vector space over K. However in characteristic zero this is not always the case, and the question is to identify when this holds and when it does not. In the lecture we provide an answer in certain cases, including Kummer extensions. This is joint work with Lara Thomas and Mathieu Florence. (Received February 10, 2009)