1032-13-125 **Joost J Berson*** (berson@math.wustl.edu), Washington University in St. Louis, 1 Brookings Drive, Campus Box 1146, St. Louis, MO 63130. *Stable tameness of coordinates and automorphisms.*

One of the open problems in the theory of polynomial coordinates, is the question whether they are all stably tame, i.e. part of an automorphism in more variables which is the composition of linear and elementary automorphisms. The speaker's thesis deals with a special class containing many coordinates in two variables over any commutative ring. All of them are shown to be stably tame.

Another, stronger notion is that of stable tameness of *automorphisms*. A polynomial automorphism is called stably tame if it becomes tame by adding a finite number of new variables. The Jung - Van der Kulk Theorem states, that all automorphisms in two variables over a field are tame. This is not true over a general commutative ring (even a domain). Over a domain, it is still unknown, whether all automorphisms are stably tame. Recently, David Wright and the speaker showed, that over a Dedekind $\mathbb{Q}$-algebra, all two-dimensional automorphisms are stably tame, needing at most three new variables. An important element of the proof of this new theorem is another new theorem, saying that over an Artinian $\mathbb{Q}$-algebra, all two-dimensional automorphisms are tame, if we make the additional assumption, that the Jacobian determinant equals one. (Received August 18, 2007)